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ABSTRACT

This document describes basic skills, their place in programs of vocational preparation, and their potential for progression into more advanced programs. Section 1 reviews the present situation and concepts regarding the provision and acquisition of skills. The need for progression is described, and the possibility of creating programs for progression of skill acquisition is promoted. Section 2 lists the important skills needed in employment as identified by research and briefly considers the significance of application of the data to the curriculum. Section 3 describes a progressive structure of education and training based on the skills, concepts, and research described earlier in the document. Section 4, in tackling some of the staff development problems associated with basic skills teaching, describes a proactive and a reactive approach to staff development arising out of the curriculum demands of vocational preparation. Section 5 is a summary. Appendixes, amounting to approximately three-fourths of the document, include a review of research in the area of skills, a common core of skills for vocational preparation, research data, an assessment of basic skills, models of progression, a staff development program, and a glossary. (YLB)

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Dear Sir/Madam

BASIC SKILLS

Enclosed herewith is a copy of the above publication. It contains both policy and information regarding the teaching and learning of basic skills, and whilst it is one of a series of documents intended to develop further the curricular components described by the FEU in Vocational Preparation* it is also relevant to mainstream further education. It should therefore serve as a working document for those engaged in national and local curriculum design.

The document analyses some of the current research related to skills. This not only identifies a large number of generic skills common to many jobs, but also confirms that employers require from young people certain attitudes as well as conventional skills. The document thus argues that knowledge, experience and attitudes as well as conventional skills should comprise the basic skills we seek to inculcate in young people.

In arriving at an elaborated definition of basic skills, the document explores the ways in which they could and should enable the owners of these skills to progress into more advanced levels of education and/or training**. Pragmatic models of progress, some of which already exist, are compared to an "ideal" model previously mooted by the FEU.

An appraisal of the principles of transferability and of teaching skills across the curriculum, leads to the suggestion that all subject teachers should be teachers of basic skills.

The document relates to MSC initiatives and it should provide a conceptual base for the interdependence that is claimed to exist between the three objectives of NTI. Hopefully, by defining basic skills as a collection unique to each person, it also demonstrates that they have as much to do with everyday living as they have with training for employment and work.

Yours faithfully

JACK MANSELL
Director

* Vocational Preparation, FEU 1981

** See Progressing from Vocational Preparation - the issues, FEU 1982

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- 1 Reviewing the range of existing curricula and identifying overlap, duplication and deficiencies
- 2 determining priorities for action to improve the total provision and suggesting ways in which improvement can be affected
- 3 carrying out specific studies, helping with curricular experiments, and contribution to the evaluation of objectives, and
- 4 disseminating information about the process of curriculum development in FE.

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FOREWORD

The term *basic skills* has, in recent years, come to figure more prominently in discussions in education and training. For some, the term embraces manipulative skills of a type and quality that may be readily transferable; for others, the basic skills are literacy (comprehension and communication) and numeracy; and there is a growing group in education and training for whom basic skills must include coping or "survival" skills. What is clear, even if definitions are unclear, is that there is a growing need that the curriculum in the F.E. Colleges must equip the students to undertake a range of tasks and must, moreover, provide some opportunity for progression viz. the curriculum must not lead into a cul-de-sac.

This publication is important because it presents basic skills within the context of the curriculum required to meet the aims of vocational preparation. In so doing, there is a broadening of the concept of basic skills and a sharpening up of ways in which the curriculum and staff must respond. The emphasis throughout is what it ought to be, upon personal development of the student. The publication brings together concepts and detailed applications, experience from industrial training and from F.E. training. It is commended to both teachers and trainers, presenting to them a common ground in which they work.

George Tolley
Chairman

1. This document is one of a series being produced by the FEU, which aims to follow up *Vocational Preparation*.¹ In that publication one of the major curricular components considered essential to all young people making the transition from school to adult and working life, was the *acquisition of basic skills experience and knowledge*. More recently, both the Government and the MSC have each confirmed that *basic skills* are regarded by them as an essential component of *A New Training Initiative*; and so on this issue there appears to be general agreement.

2. What is less obvious is what we mean by *basic skills*. This uncertainty makes it difficult to establish their place in the curriculum, to establish by whom and how they should be taught and therefore how they should be effectively acquired by the young people themselves.

3. To many teachers and tutors, *basic skills* are associated with remedial education; to others they are associated with survival and coping in adult society; others see them solely in terms of manipulative tasks. A more recent definition, by the IMS,² is "numeracy and its application; oral and written communication; manual competence". And whilst we agree with much of the IMS analysis, this document works on a wider definition of *basic skills*. Within this plethora of interpretation however, there is much common ground and in the continuing uncertain employment situation, few would disagree that young people in transition require a broad-base of achievement in skills that are common to many occupations. Beyond this, the skills required by an individual must relate to the characteristics of that individual and to the opportunities that exist.

4. This document therefore builds on the concept of core skills, an elaborated definition of *basic skills* which produces for each individual an individual collection of knowledge, skills, experiences and attitudes³ related to their vocational commitment. In doing this it attempts to tackle the complex problem of bridging the gulf that often exists between teachers of general and of vocationally specific subjects, between academic and non-academic, and between training and education.

5. It is, in some areas, already possible to find young people who have been through several schemes of work

experience, have apparently acquired many of the core skills that have been prescribed but are still no nearer to "recognised" further education and/or "proper" training than when they commenced their pre-vocational studies in school. It is this lack of progression that is becoming one of the main constraints to the general acceptance of vocational preparation as central to all educational programmes. In short, skills and in particular *basic skills* have been identified as terminal products rather than essential developmental processes. It is the aim of this document to insist that our concepts of skill need widening, to suggest how they might be widened and to indicate how they can be used as a basis for progression.

6. Section ONE of the document describes and challenges the static and often negative way in which we have restricted both our vocabulary and provision of skills, and suggests that both general and specialist subject teachers should be encouraged to regard themselves as teachers of *basic skills*. Section TWO summarises some of the research which supports the need for a re-appraisal of our vocabulary. Section THREE describes a possible framework for progression. Section FOUR, in tackling some of the staff development problems associated with *basic skills* teaching describes a pro-active and a re-active approach to staff development arising out of the curriculum demands of vocational preparation. Staff development thus becomes an integral part of curriculum development.

7. The working group that produced this document⁴ comprised members from training and education, proving once again that the more frequently we can bridge the organisational schisms that separate these two functions, the more likely we are to produce progressive curricular ideas which are of real value to the clients. The Board of Management is appreciative of their valuable contribution to this area of thinking.

8. The messages of the document are relatively short and clear: once we accept that the acquisition of skills is not restricted to a few specialised educational and

1. Published by the FEU in January 1981.

2. *Foundation Training Issues* Institute of Manpower Studies February 1982

3. see paragraph 50 of the document.

4. See Appendix 1.

training programmes, access to the learning of skills is seen as the right of all; once we accept that skills are not related solely to intellectual or manipulative tasks but are a central element of personal development, then the combination of skills a person needs and acquires is unique and contribute to them as an individual; once we accept that however limited or extensive our acquisition of skills each is capable of generating satisfaction, we all become useful and capable of further progression.

Jack Mansell

Section One

The Background

1. This section attempts to rehearse briefly our present situation and concepts regarding the provision and acquisition of *skills*. And whilst its main focus is that of young people leaving school, we feel that much of what we say applies also to the ways in which many adults perceive and often acquire skills. Existing FEU policy with respect to the identification and provision of core-skills is briefly summarised in the light of MSC initiatives. The need for *progression* is then described and the possibility of creating programmes for progression of skill acquisition is promoted, via suggestions regarding the ways in which we need to change many of our concepts of skills.

The Changing Concept of Skill

2. There has been considerable research in the skill area. This research has led to a greater understanding of the different kinds of skills; that to perform a skill competently may involve more than the simple acquisition of that skill; that having a skill does not necessarily mean being prepared or able to use it, or knowing all the occasions on which its use is applicable or possible; that skills may have attitudes or values associated with them, and so on. Much of this research is as applicable to education as it is to training.

3. For many, the term skill is reserved for describing the ability to perform some manipulative occupational task; the ability to type or write shorthand... ie the skills of the secretary; the ability to file, machine or weld... ie the skills of the fitter, and so on. With controlled physical movements of the fingers and hands being often the only visible characteristic of so many of these job specific skills, it is perhaps not surprising that for so long, skills have been seen as the prerogative of the craftsman (or woman). Out of this view misconceptions have arisen, particularly that skills are simply well practised manipulative abilities requiring physical dexterity but little planning, knowledge and understanding, and rarely associated with attitudes and problem-solving. Yet there are few skills used in work that are not of value in everyday life. The term skill includes not only the industrial connotation of a skilled worker but also a psychological perspective. The psychological use of the term skill is that skilled performance requires perception, decision-making, knowledge, judgements and understanding, and

at the same time all skills involve some kind of co-ordinated, overt activity by hands, of speech etc.

4. For many young people, if education is to mean something to them and to be seen of value by them, the *educational process* must be useful and instrumental in developing skills for work and adult life. A skills-based curriculum with a relevant vocational focus often provides the right kind of stimuli for the young person to experience the wider aims of education.

5. A generally acceptable checklist¹ is contained in the FEU publications *A Basis for Choice* and *Vocational Preparation* and an updated checklist is reproduced in this Document as Appendix 3.

The detailed list is based on *twelve* key aims: ie to *bring about*

- i. an informed perspective as to the role and status of a young person in an adult society and the world of work;
- ii. a basis from which the young person can make an informed and realistic decision with respect to his or her immediate future;
- iii. A continuing development of physical and manipulative skills; in both vocational and leisure contexts, and an appreciation of those skills in others;
- iv. an ability to develop satisfactory personal relationships with others;
- v. a basis on which the young person acquires a set of moral values applicable to issues in contemporary society;
- vi. a level of achievement in literacy and numeracy appropriate to ability and adequate to meet the basic demands of contemporary society;

1. A checklist differs from a syllabus in that while the latter has usually to be worked through in some form of sequence from beginning to end, a checklist is used to assess the needs of each learner so that a programme can be constructed satisfying these needs.

- vii. competence in a variety of study skills likely to be demanded of the young person;
- viii. a capacity to approach various kinds of problems methodically and effectively, and to plan and evaluate courses of action;
- ix. sufficient political and economic literacy to understand the social environment and participate in it;
- x. an appreciation of the physical and technological environments, and the relationship between these and the needs of man in general and working life in particular;
- xi. a development of the everyday coping skills necessary to promote self-sufficiency in the young people;
- xii. a flexibility of attitude and willingness to learn sufficient to cope with future changes in technology and career.

6. It will be seen from the above that these aims cover skills in:-

language: (reading, writing, speaking and listening);
 number: (calculation, measurement, graphs and tables);
 manipulative dexterity and co-ordination;
 problem solving;
 everyday coping;
 interpersonal relationships;
 computer literacy,² and learning

and experiences³ related to:-

career options;
 work and society;
 economic and political problems;
 the environment; and
 values.

7. The acquisition of skill was once, if not still, closely associated, with the process of training and was perceived as being separate from the process of education. However it will be evident from the list of

headings in paragraph 6 that the concept of skills has spread onto a much broader canvas and is now used for training and education. The FEU in *Vocational Preparation* stated that the acquisition of a core of skills has come to mean *a level of ability, achievement and understanding in essential areas of knowledge and skill which will increase a young person's chance of making a success of adult working life*. This description deliberately ignores any distinction between education and training.

8. Many *mainstream* vocational FE courses are not generally designed to give young people a core of skills that could be used in a range of jobs as and when the need arises. Neither are they designed to allow young people to sample a few vocational areas. Mainstream vocational FE courses are generally designed to fit young people for relatively stable and well defined occupational areas. The young people on these courses are either in employment and attending college on a day-release, block or sandwich bases, or on a full-time course with high expectations of having a job, in the field to which the course is related. Young people who previously would have got a job that gave them release to vocational education and training, now find that they are unable to join those mainstream FE courses, either because they have no job or because they have been forced to accept a job that offers no systematic further education and training.

With the probability of youth jobs becoming increasingly uncertain, indeed one major piece of research summarized elsewhere⁴ seriously questions the existence of young people's jobs as a distinct and permanent classification, it is perhaps no longer possible

2. The report (ABC In Action) from an FEU/CGLI Working Party on the piloting of *A Basis for Choice* mentioned a notable omission to any reference in the common core to the appreciation of a new micro-computer technology. This emphasises that it is necessary to regard the common-core checklist as a dynamic structure requiring regular review. We note that in the IMS report 'Foundation Training Issues' that computer literacy is considered an important additional basic skill.

3. The same IMS report also suggests that in the 'World of Non-Employment' participation in community action groups, political or non-political, for one's own or for other people's benefit can become attractive and satisfying if one can be a contributor and not only a follower and a learner.

4. *London Into Work Development Project: Job Opportunities for Young People*, Institute of Manpower Studies 1981.

to consider vocationally specific courses as the main way in which the FE system should prepare young people for work. What is required is a shift towards supporting young people in their quest for employment, and to provide them with a broad range of skills enabling them to involve themselves in useful work activity other than employment.

Generic Skills and the Need for Adaptability

9. Central to much of the skills research is the argument that job specific vocational preparation alone is no longer appropriate. First, many school leavers are still at the stage of sorting out their ideas and learning about the world of work, as well as discovering their own potential. Second, since there are few jobs for young people in the labour market, it is important to keep young people's options as open as possible with respect to job opportunities. Third, technological change is likely to alter the structure of many jobs; therefore, vocational preparation should provide young people with a range of skills that have utility across vocational areas. Fourth, as many individuals make one or more major changes in occupation during their working lives, competence over a core of skills common to many occupations will improve their adaptability. Skills research has identified skills that are used in, and are fundamental to, the performance of many tasks carried out in a wide range of occupations. The term *generic skills* is used to describe such skills.

10. Supported in the MSC *A New Training Initiative* is the need for a generic approach to underpin vocational preparation. Such an approach should help young people to cope with changes in their working lives. Moreover, it is hoped that employers appreciate that an individual is much more valuable and is much more able to adapt to change if he or she has acquired some competence and experience in a range (or 'cluster') of related jobs or skills.⁵

Vocational Preparation and Progression to Further Learning

11. The various initiatives that have taken place to give

some form of education and work experience to young people at risk are separated and disparate. YOP schemes serve the unemployed, UVP schemes serve the young worker and full-time college courses serve those who remain in education. The FEU in its document *Vocational Preparation* put forward a rationale for 16-19 education and training, aiming to create a curriculum framework capable of bridging the gaps that exist between the education and training sectors, thus providing for young people a coherent system having essential common components. (See Appendix 4 of this document.) At present the various schemes that loosely come under the notion of vocational preparation are separate from the two existing conventional structures in FE: traditional mainstream vocationally oriented courses, and academic 'O' and 'A' level courses. Vocational preparation, which has the aims of facilitating the transition from school to the adult and working world, should be a central educational process and therefore available to all. It should also be capable, enabling progression by young people in further learning. This further learning might be vocationally related and/or job specific: it might be further learning in conventional FE; it might be further learning on a traineeship or an apprenticeship. If young people are to see the value in following a programme of vocational preparation it should offer them progression and where appropriate some exemption in more conventional training and FE. Such progression will require the mastery of certain core skills. It is the definition of these skills, their place in programmes of vocational preparation and their potential for progression into more advanced programmes which comprises the main thrust of this document. The FEU stated in its response to the NTI that the acquisition of a core of skills although essential, will only be successful if these skills are acceptable and creditable in more advanced and specific stages of education/training.

12. There must be satisfactory progression from the skills obtained in vocational preparation as described in objective 2⁶ of the NTI, to the stages or skill in a competency based apprenticeship system implied in

5. See for instance 'A skills approach to individual careers guidance' by Elizabeth Stafford. Memo No 471, available from Social and Applied Psychology Unit, The University, Sheffield.

6. See Footnote over page

objective 1.⁶ Much of our initial apprenticeship training concentrates on *product* rather than *process* skills, and it is often based on the assumption that specific *product* skills automatically bring about social maturation and the mastery of certain core-skills, (described above in paragraph 6). Similarly, in much vocational preparation the teaching and learning of essential *product* skills is sometimes neglected. The result is a serious discontinuity between vocational preparation and the more conventional vocational training/education. This discontinuity is not only reflected in the apparent lack of a progressive link between objectives 1 and 2 of the NTI but also, in much of the existing philosophy of training and education. These issues are discussed in Section THREE.

Vocational Preparation – Curriculum Components

13. An analysis of existing modes of vocational preparation led the FEU to conclude that they should contain four common basic curriculum elements if the aims of a generic approach are to be fulfilled. These elements are *Negotiation; Counselling, Guidance and Assessment; Acquisition of Basic Skills; and Relevance and Experience*. Appendix 4 describes them in greater detail.

14. The FEU documents *A Basis for Choice and Vocational Preparation* between them suggest a curriculum structure which includes a common core, vocational studies and occupationally specific skills. The CGLI has devised a scheme based largely on this structure.⁷ Further, the MSC are now engaged in the development of a broad based one year scheme of vocational preparation for all young people, whether or not they are employed. For such a scheme to enable progression into more advanced education and training, new attitudes towards skill definition, teaching, learning and testing are required. These issues are considered further in Section THREE.

Skills Across the Curriculum

15. As suggested in paragraphs 9 and 10, a narrowly conceived skills-based curriculum for vocational

preparation is not relevant to the contemporary or future situation. All teachers need to use the teaching of any skill as an opportunity for wider learning.

Both general and specialist subject teachers should be encouraged to regard themselves as teachers of *basic skills* and they should apply themselves to the task of bringing together vocational and common-core general skills. This also applies to all those engaged in the support and development of young people: youth workers from the public sector and voluntary agencies, adult education workers, YOP (YTS) instructors and supervisors.

16. Derived from each core aim (see paragraph 5) are detailed objectives, (see Appendix 3) described in terms of a combination of observable performance to be expected of young people and learning experiences to which they should be exposed. It is not suggested that each member of staff should be competent in all aspects of this checklist, that is more likely to be the function of the programme team as a whole. However, it is important that individual members of staff should be aware of the total range of the checklist and support its totality in their own teaching. For example teachers feel that the skills of literacy and numeracy are best developed when the learner is able to practice those skills in a variety of settings, with encouragement of other members of staff. Such an approach to *skills across the curriculum* has much in common with the notion described in the Bullock Report⁸ for *language across the curriculum*.

6. Objectives of NTI are:

1. "We must develop skill training including apprenticeship in such a way as to enable young people entering at different ages and with different educational attainments to acquire agreed standards of skill appropriate to the jobs available and to provide them with a basis for progression through further learning."

2. "We must move towards a position where all young people under the age of 18 have the opportunity either of continuing in full-time education or of entering training or a period of planned work experience combining work-related training and education."

3. "We must open up widespread opportunities for adults, whether employed, unemployed or returning to work, to acquire, increase or update their skills and knowledge during the course of their working lives."

7. CGLI Scheme 365: *Vocational Preparation (General)*

8. "Language for Life (The Bullock Report) HMSO 1975.

17. There is now increasing evidence of college staff and others, using vocational preparation to subsume the concepts of social and life skills into programmes based on a broader base of skills. Consequently the concept of servicing is being replaced by the concept of a team of teachers, all of whom support and contribute to vocational preparation programmes. If college structures reflect the curriculum demands of vocational preparation by creating teams of teachers, the concept of servicing will diminish and unproductive differentiations between the status of teachers may well tend to disappear.

18. The two grids below (Figs 1 and 2) give examples of how a vocational focus is used in Aim 6 of the common-core (see Appendix 3). It will be evident that each situation can also be used for the acquisition of other core-skills under other Aims. Fig 3 illustrates the generic nature of the common core by translating objective 3.5 into several relevant foci.

19. The reports *A Basis for Choice*⁹ and *ABC In Action* give examples of ways in which colleges can implement

a skills across-the-curriculum approach to vocational preparation:

19.1 The "Check-list" Approach

Using the ABC core check-list as its starting point, one programme team allocated areas on which individual teachers would concentrate. These areas mainly coincided with areas of specialist subject responsibility, and the aim of the exercise was to avoid undue overlap and duplication. From time to time, the team met to check that coverage was proceeding as planned, and adjustments were made according to what individual teachers were managing to cover, and what subjects were thought to need most.

19.2 The "Master-Plan" Approach

One college produced a plan for integration by constructing a teaching "calendar" which indicated which core areas would be tackled when, and in the context of which teaching area. As a general guide to

Relevant Focus	Reading	Writing	Speaking	Listening
Motor Vehicle Servicing*	job cards workshop manuals visual display micro records	reporting faults	asking for guidance asking for parts	receiving instructions
Community Care	stories to someone letters	letters reports	conversation stories	conversation receiving instructions
Construction	building plans job cards	requests for equipment, materials	asking for information	receiving instructions
Commercial Studies	letters memoranda	various types of business communication	telephone reception work	oral messages receiving instructions

* Motor vehicle servicing is an example of how a relevant focus can be used for wider learning, in this instance interpretive reading: the opportunity created by the teacher for the learner to read a job card or workshop manual might provide the right kind of stimulus for some young people to see the usefulness of tuition in reading and writing. The opportunity allows for practice in reading. It might also demonstrate to young people that manual jobs involve more than manipulative skills and job specific knowledge - it requires a range of skills.

Figure 1. Language Skills

9. Appendix II of *A Basis for Choice* also describes a matrix showing the relationship between objectives.

Relevant Focus	Calculation	Measurement	Graphs	Tables
Motor Vehicle Servicing	water: anti-freeze ratio costing work	bore size tappets oil quantities tyre pressure	fuel consumption	torque settings tyre sizes tyre pressures
Community Care	shopping money fuel bills	height of children shoe size	body temperature	growth rate of children
Construction*	sand: cement ratio volume of paint cost of work	foundations walls lengths of timber	heat transfer (eg heat losses)	VAT rates
Commercial Studies	petty cash travelling expenses	typing tabulation	sales figures	wage/tax deductions

* The Construction field is an example of how a relevant focus can be used for wider learning, in this instance calculation and measurement. The opportunity created by the teacher whereby the learner needs to measure an area of wall and calculate the volume of paint required to cover the wall might provide the necessary motivation for the learner to see the relevance of calculations related to areas and volume. The opportunity might be created to diagnose levels of numeracy.

Figure 2. Number Skills

—Motor Vehicle Servicing	Carry out a simple service check eg fluid levels, tyres, lights. . .
—Community Care	Clean a room. . .
Common core objective (3.5)	
<i>Perform tasks to a set standard and in a given time, working co-operatively when appropriate</i> —Construction	Fit new hot and cold water taps to a wash basin in situ. . .
—Commercial Studies	Type a short letter from a hand written copy. . .
—Food Preparation and Service	Lay a table for a three course meal for four people. . .

Figure 3. The Generic Nature of the Common-Core

help a rather large programme team to keep in touch with each other's intentions, this seemed to be an approach worth considering, although it was recognised that regular meetings would be needed to check progress and make adjustments. There might also be problems with this approach in coping with groups of students who had widely differing needs or abilities.

19.3 The "Integrated Theme" Approach

One college constructed its programme round a series of assignments each with a theme linked to a particular vocational area with local relevance. A small working party drew up initial recommendations, which say:-

"The programme... should be interdisciplinary in nature avoiding "subject learning" and the confines of the classroom."

"It should take the form of a series of assignments, with continuous assessment and evaluation of both the student's progress and the methods of teaching and learning."

"An endeavour should be made to incorporate in the programme some first hand contact with the world through work experience and/or visits, specifically integrated assignments."

"The timetable should take the form of eight three hour blocks of project work with a member of staff timetabled for a complete half day, to facilitate practical work and make it possible to plan activities outside as well as inside college. The remaining two half days should be designated as private study periods in which students should seek relevant information, collect materials etc."

"The students should take an active part, under supervision, in the day to day planning and organisation of the assignments."

"The teaching should be carried out as a team operation, all staff involved taking part in all assignments on a regular basis."

"Each assignment should be preceded by an introduction showing the relevance of the assignment

to the skills needed in working life, and followed by a session involving self-assessment on the part of the students."

19.4 An example of one assignment illustrating the way in which various common-core objectives can be fulfilled through one theme is shown in Appendix 5.

20. The implications of *basic skills across the curriculum* for teachers designing learning experiences, for programmes of vocational preparation are important. The vocational teacher will need to look at his/her specialist area and decide, having regard to the individual needs of his students, which skills and activities can be used as a relevant focus for the programme from which other common-core skills will develop. The teacher might thus be seen as having two sets of objectives; overt and covert:

the *overt* objective is the actual activity in which the learner is involved, the *covert* objective is related to the awareness the teacher has for using the situation for wider learning and development.

21. There are many organisational, staff support and curricular problems to be overcome in moving towards a more coherent approach to vocational preparation. But if young people are to start and stay on vocational preparation, the programme must be relevant, more coherent and more progressive. It is not just an FEU view that many young people have not always found separate subject-based curricula either relevant or successful. Without an obvious set of overall curricular aims perceived by staff and students alike, coherence in a single subject programme is bound to be lacking. By placing core-skills in the context of a relevant vocational curriculum, the chances of improving many young persons motivation to learn, and stay on a programme and continue his/her education and training will be increased.

22. *Skills across the curriculum* requires a co-ordinated approach to curriculum implementation and a need for all teachers to have as their concern the teaching of core-skills. Programme teams will need to exist and meet regularly, to reinforce this concern. Specialist craft/technician teachers will need to be more consciously aware that through their specialism, they are

well placed to create opportunities for wider learning; this will require staff development which is discussed further in Section FOUR.

Teaching for Transfer

23. There has always been much discussion about transferable skills, and by this we mean the extent to which skills learned in a particular context can be used in other contexts. It is generally assumed that generic skills by definition, because they appear in a range of occupations, offer the potential transferability from one occupation to another. But at the moment, there is little general awareness of how this might be done, or how teaching might assist the process.

Transferability can be promoted by including it into the basic design of the programme. An example is Aim 12 in the common core (see Appendix 3):

"To bring about a flexibility of attitude and a willingness to learn, sufficient to cope with the future changes in technology and career."

The objectives associated with this aim are as follows:

"The student should first

- 12.1 whenever they develop a particular capacity in a given context
- 12.1.1 identify other contexts in which the capacity could be useful
- 12.1.2 be given practice at applying relevant aspects of previous learning to a new situation
- 12.1.3 identify any other activities at which they are likely to be successful on the evidence of this learning"

The implementation of this aim and its objectives would obviously not be brought about by giving a particular teacher or instructor, a timetable slot marked "Flexibility. . .", but the existence of the aim, one hopes, would act as a focus for staff-team discussion.

24. What research has been done in this area has not been well assimilated in further education, but generally

the extent to which a skill is transferable depends on the nature of the skill, the principles to be learned, the context in which it has been taught and learned, the individual characteristics of the learner, the degree to which the skill is used. Driving a motorcycle is a complex skill and with a good background to the acquisition of that skill it can be transferred to other classes of vehicles. But if the skill has been taught and learned in a restricted way, for example without knowing *why* we change gear; without understanding the *function* of the clutch; without knowing *why* the choke is used; never having driven in *the dark*; or in a *busy town* etc, then the ability of that skill being transferred by that person will obviously be impaired. . . There is, as we say above, not so much a lack of research into transferability as a lack of awareness by teachers of its potential as a teacher skill. There is, for example some evidence to indicate that for many tasks and skills, transferability is enhanced if the teacher adopts a *goal-oriented* approach rather than a *stimulus-response* (rote) approach. Similarly, more thought to the planning context of many skills is claimed to increase transferability, as indeed are well organised practice sessions. Eventually however the teacher/instructor is confronted with so many variables that an on-the-spot analysis for every instructional problem becomes impossible. Better perhaps to instil into teachers the general need to investigate and exploit the transferability of every skill they teach, ie a *goal-oriented* approach!

25. Teachers need to point out to young people the links between different kinds of activity, eg that the skill demands of *caring* type work may be very similar to those made of a shop assistant. There is also much to be said for a more inductive and reflective mode of teaching, demonstrating to young people that they already possess skills which can be used in a range of contexts. Work experience as a coordinated and coherent part of the curriculum can be used to exploit and increase skill transfer. The training given in different work experience placements or for that matter college workshops could affect whether the skill learned can be applied in other circumstances; the IMS¹⁰ refer to this notion as *skill ownership*. Some work experience placements for example in the retail motor trade would train the young person in the replacement of motor

10. *Foundation Training Issues* Institute of Manpower Studies 1982.

vehicle parts. The skill of vehicle fault diagnoses and general maintenance remains with the garage – its foremen and mechanics. Other garage placements provide training which includes knowledge and information about motor vehicle working principles; it is here that the young person will remain the owner of the skills and will have learned how to combine and deploy them in a number of circumstances. Curricular design must include the planning of content and method to ensure that *skill ownership* is acquired by the young person.

Another IMS¹¹ report also suggests that teachers can enhance the learning of skills transfer by:

- i. explicitly introducing students to the notion of transfer;
- ii. making students aware of the skills that have the highest potential for transfer;
- iii. ensuring that students are conscious of the skills they are acquiring;
- iv. introducing students to tasks which are arranged according to similarity of elements, concepts, principles and learning strategies;
- v. teaching students by methods which facilitate comprehension;
- vi. involving students in the learning process;
- vii. making students aware of different types of learning and conscious of their own learning styles.

We therefore believe that *Teaching for Transfer* is not so much under-researched, as under-promoted as an essential teacher skill. It does however form the essence of vocational preparation.

Main Points

26. This section has provided a background to the need for a wider concept of *skills* and for a generic approach to vocational preparation.

The main points that emerge are:

- i. The use of a skill cannot be dissociated from knowledge, understanding, practice and attitudes (paragraph 3).
- ii. A skills-based curriculum with a relevant focus often provides the right kind of stimuli for the young person to experience the wider aims of education (paragraph 4).
- iii. The term skill is used to describe a range of competencies: language skills, number skills, manipulative skills, problem-solving skills, learning skills etc (paragraph 6).
- iv. Vocational preparation needs to provide young people with a range of generic skills to improve their adaptability (paragraph 9).
- v. Vocational preparation must be capable of enabling progression to further learning (paragraph 11).
- vi. Both general and specialist subject teachers should be encouraged to regard themselves as teachers of *basic skills* (paragraph 15).
- vii. *Skills across the curriculum* requires a co-ordinated approach to curriculum implementation (paragraph 22).
- viii. *Teaching for transfer* might be enhanced if a more reflective mode of learning is used based on the notion of *skill ownership* (paragraph 25).
- xi. *Teaching for transfer* is not so much under-researched, as under-promoted as an essential teacher skill. (Paragraph 25)

11. *Skills Needed For Young People's Jobs - Some Applications of the Findings* Institute of Manpower Studies 1982.

Section Two

Some Research Findings

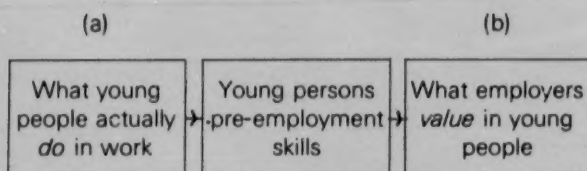
27. The aims of this section are to list the important skills needed in employment as identified by some of the research projects in Appendix 2 and to briefly consider the significance for application of the data to the curriculum.

28. An analysis of the research literature indicates that there have been broadly two approaches to the identification and production of lists which show:

- what young people actually *do* in work; and
- what employers *value* in young people.

The two approaches and their associated research projects are shown in Figure 1.

Figure 1. Research Seeking to Establish



Some projects* associated with (a)

- London Into Work Development Project.
- Young People Starting Work Project.
- Basic Skills Check List.
- Food, Drink and Tobacco ITB Project.
- Rubber and Plastics Processing ITB Project.

Some projects* associated with (b)

- A to Z Study.
- Craft, Design and Technology Links with Industry Project.
- RTITB School Leaver Profile.

* Full references to these projects are given in Appendix 2.

29. Figure 2 shows some of the skills under the respective approaches. The two lists are selective and undoubtedly over-simplifies much valuable and complex data. Further detail is given in Appendices 6 and 7 but justice can only be given to the research projects by reading the full reports.

Figure 2.

What young people <i>do</i> in work	What employers <i>value</i> in young people*
<i>Listen:</i> to follow instructions/less formal meetings/draw conclusions	VERSATILITY
<i>Talk:</i> to ask questions/explain/advise/persuade.	TAKES INITIATIVE
<i>Read:</i> to get information/charts/tables/letters.	PRIDE IN JOB
<i>Write:</i> messages/take notes/fill in forms.	GOOD PERSONAL RELATIONS
<i>Basic Calculations:</i> mental arithmetic/use calculators/handle money.	LISTENS TO INSTRUCTIONS
<i>Manipulative:</i> keyboard devices/job specific tasks, processes.	WIDE VIEWPOINT
<i>Plan and Problem Solve:</i> Methods of procedure/job priorities/security/special precautions.	SEEKS WORK WHEN SLACK
	QUALITY CONSCIOUS
	GOOD TIME KEEPER
	ASKS QUESTIONS
	METHODICAL AND NEAT
	REPORTS FAULTS
	REMEDIES THE PROBLEM

* List from Industrial Training Research Unit *A to Z Study* (A types) 1979

Research Data Implications for Curricula Application

30. The research data and skills identified can be used along with the FEU common core check-list in Appendix 3.

- as part of a curriculum review exercise, which could result in a change in curriculum emphasis and/or new skills being introduced (paragraph 46);

- b. as a basis for programme validation (paragraph 38, Appendix 8);
- c. as criteria for selection, necessary for progression to further learning (paragraphs 11, 38, 53);
- d. as a means of determining how different locations for vocational preparation are linked together in terms of skill opportunity, so that for example systematic progression through several locations can be offered and ensured (paragraph 47);
- e. as a tool during the initial diagnostic guidance and counselling stage in trying to match a young person's interests and talents with an appropriate vocational area so providing a focus for further diagnostic assessment and learning (paragraphs 13, 38);
- f. as a basis for recording a young person's progress on a profile (paragraph 38).

31. The data also serves to underline the importance of numeracy and literacy in vocational preparation; opportunities will need to be created for the practice of skills in planning and problem solving and to somehow include affective and interpersonal objectives in the curriculum.

32. The data has obvious implications for pedagogy. That employers *value* such things as versatility, initiative, good personal relations, methodical and neatness in young people, requires teachers to be aware of their role of exemplar. The data emphasises the importance of teaching strategy, teacher's posture, teacher's personality and learning experiences created and to the skills *needed* by young people if they are to be *valued* by employers. Wittingly or unwittingly, young people copy or model themselves on the behaviour of their teachers; teachers carry a heavy responsibility and are in an influential position to affect the young person's subsequent behaviour in work and life generally.

33. It will be appreciated that if we define all the attributes listed in paragraph 29 above as *skills*, then the curricular implications are significant. Good teachers have always regarded these attributes as essential parts of their teaching, however informal their strategies might

be. Nevertheless, some of these attributes are considered by many subject teachers as irrelevant to their particular teaching task. Even where this attitude does not exist, few if any, curricula make explicit all the attributes listed above, and many subject syllabuses do not encourage the use of strategies that will permit these *skills* to be practised. To ensure that young people are at least given the opportunity to acquire these skills, it therefore appears necessary to:

- i. explicitly design them into the curriculum;
- ii. raise the awareness of the teachers concerned to the importance of inculcating these skills;
- iii. encourage the teaching and learning of these skills by
 - a. illustrating that certain strategies; eg the setting of targets, outcomes, assignments, and team working can be more effective than others;
 - b. devising methods of assessment and modes of recording those assessments, which can support the identification and practice of those skills; eg a formative profile of achievement, completed by discussion between the tutor learner.

34. If the research, summarised above and in Appendix 2 is to have a beneficial effect, then curriculum designers, managers and teachers all need to play their part supporting the activities suggested in paragraph 33. Meanwhile, it is probably true to say that much of the research tends to confirm the need for a common core checklist such as described in Appendix 3 for the development of assessment strategies such as suggested in Appendix 8 and for that degree of occupational relevance described by the framework suggested in Section THREE.

Section Three

A Progressive Skill Structure

35. The primary aim of this section is to explore some of the issues involved in providing a progressive structure of education and training based on the skills, concepts and research that have been described in the earlier sections.

36. The MSC is now firmly committed¹ to a policy of basic vocational preparation going *beyond the needs of specific job* for both employed and unemployed young people. FEU policy is for a nationally coherent vocational preparation curriculum structure available to *all* school-leavers whether college-based, unemployed or employed, individually negotiated for each young person, and giving maximum appropriate progression;² this policy is committed to the provision of a comprehensive Youth Training Scheme³ alongside a new pre-vocational 17+ certificate, and such a policy relates to both MSC and FEU initiatives. Thus whatever organisational and resource discrepancies exist between these policies, the curricular principles expounded by each are generally similar and in particular aspects, almost identical.

37. Aspects common to all three policies include the acquisition of basic skills, individual induction and guidance, assessment and counselling coupled with some form of profile, and occupational relevance. This document is obviously concerned with the *basic skills* component of this common curriculum philosophy, as far as it can be isolated from a coherent framework, and in particular the way in which the acquisition of *basic skills* can be progressive. One of the more persistent criticisms of vocational preparation programmes had been their lack of progression into more *advanced* education/training schemes. The policies referred to above begin to answer this criticism.

38. The nature of the progression that young people will make from programmes of vocational preparation will obviously relate to the level of achievement of each individual. Some testing and selection are inevitable elements of progression, but many of the existing criteria and methods are too restrictive, based as they are on a norm-referenced examination system which gives inadequate information about the knowledge, skills and experience possessed by an individual. A *profile* system of recording a wider variety of individual pupil data is being investigated by the Schools Council at the request of the DES and this should, in the long term, assist 16+

school leavers. In the meantime, the MSC⁴ and the FEU⁵ are actively promoting the concept of student/trainee profiles in the 16-19 age range, and their adoption could go some way in assisting progression within and from vocational preparation programmes. FE examining/validating and training organisations can obviously assist in creating progression by encouraging the use of such profiles. They can also assist by defining access to their *advanced* schemes in terms of criteria that can be obtained from the profile. How this might be done is discussed later.

Some Initiatives

39. A few examining bodies and colleges⁶ have made an interesting start in recognising the possibility of progression from vocational preparation, the CGLI⁷ are actively considering how candidates from their *Vocational Preparation (General) Course* 365 can be given accelerated entry to Part 2 Engineering Craft and other courses. The RSA *Vocational Preparation (Clerical) Course* and *Certificate in Basic Clerical Procedures*, have a curriculum based on a common-core of skills. TEC

1. *A New Training Initiative - An Agenda for Action* (paragraphs 17/18) MSC, December 1981

2. At the time of writing *Progression From Vocational Preparation - Issues for Discussion*, FEU December 1981, is still under discussion.

3. *A New Training Initiative - A Programme for Action*, Cmnd 8455, HMSO December 1981.

4. *Trainee Centred Reviewing*, Research and Development Series No 2, MSC November 1981.

5. *Profiles* FEU 1982

6. Appendix 10 shows a college model of vocational preparation based on a progressive skill structure (see also paragraph 60).

7. The CGLI through its Hargreaves Committee have already indicated that they accept the principle of accelerated entry to Part 2 schemes. This Sub-Committee of the CGLI Joint Advisory Council for Engineering is reviewing the Institute's Engineering courses. Part of the conclusions in the 'Sub-Committee Interim Report' published in June 1981 reads:

"... the Sub Committee support the principle of vocational preparation for young people proposed by the FEU in their recent report (*Vocational Preparation*). There are implications in the proposals for Part 1 200 in order to provide for accelerated entry to Part 2 as applicable. It is emphasised however that coordinated vocational preparation, including the acquisition of vocational FE and practical skills is particularly important in order to satisfy the needs of employers and ensure that the output is employable. In this latter context, the Institute should play a leading role in the compilation of positive schemes embracing the essential elements of vocational preparation and vocational skills."

have developed in conjunction with MSC, programmes which offer progression (see paragraph 58 and Appendix 9d).

40. Alongside the initiatives being taken by Examining Bodies are some ITB initiatives. The Road Transport Industry Training Board and the Construction Industry Training Board have implemented pilot traineeship programmes for YOP young people (sometimes referred to as Advanced YOP). Some ITB programmes offer vocational area skills and a foundation of job-specific skills across a range of jobs within the respective single vocational area. There is no evidence that the design of the programmes has taken cognizance of a common-core of skills other than a *conventional* Social and Life Skills component. Trainees on ITB schemes will take the appropriate CGLI course. This will automatically give them entry to Level 2 CGLI courses but there remains the issue of the young person's general level of common-core skills, which will undoubtedly be needed to cope with change, both within and without employment.

41. Such ITB initiatives are generally welcomed, but by their specificity there is a danger that some schemes though not all⁹ may be perpetuating fundamental issues such as who is responsible for different levels of training, are only beginning to be solved. In the meantime it is to be expected that ITBs and other industry-based training organisations will have as a main priority, the provision of skilled workers for their industry as quickly as possible. Vocational preparation is part of the new training philosophy, carrying with it not only the connotation of public funding but also the promise of wider opportunities and adaptability based on a broad-based generic foundation. An agreed approach to *basic skills*, such as we are here exploring, would go some considerable way in successfully relating the new style vocational preparation to the more familiar job-specific training. Such an approach need not be confined to young people on vocational preparation; *basic skills*, as we hope to define them, are equally relevant to adult needs and thus supportive of the new training philosophy.

42. Generally however, 'advanced' or 'level-2' programmes are described in terms of education qualifications which are not always related to

occupational experience. This is not necessarily a disadvantage if paralleled by a structure of occupational accredited qualifications, but these are few and far between and even where they exist, their take-up is slow.⁹ The net result of this lack of provision is that only about 30% of our workforce is occupationally qualified, compared to 60% in West Germany.¹⁰ If we are to effectively increase the qualifications of our national workforce, then a nationally supported base of vocational preparation such as we describe, seems to be an essential prerequisite.

43. What also appears necessary is a comprehensive and easily understood foundation structure of *training families* or *clusters* to which employers and individuals on training and education programmes can relate. There are within Europe and elsewhere various classification systems of occupations; the UK system is CODOT (Classification of Occupations and Directory of Occupational Titles), but at present such systems do not readily form a suitable basis for an easily understood comprehensive structure of vocational preparation; although they do in some cases relate more closely to specific occupations.

As we have explained elsewhere, with changing technology and variable employment prospects, school

8. The Road Transport Industry Training Board are piloting a processes based model in two of their advanced YOP programmes. The two programmes are:

- i. Rural Equipment Servicing (CGLI 015) and,
- ii. Wood working, Metal working, Painting and Trimming Skills (CGLI 385)

Both programmes include *associated knowledge* (Hargreaves - 'supportive topics'). An interesting feature of both programmes above is that the RTITB have selected, following negotiations with the CGLI for the trainees to study those *associated knowledge* aspects of the CGLI 015 and 385 courses respectively which are relevant to the advanced YOP programmes. The selected aspects will be assessed in the normal way by CGLI and accredited. Further details of the RTITB programmes can be obtained from RTITB, Capital House, Empire Way, Wembley.

9. For example, of the 15,782 Craft trainees who commenced their ETTB modular training on 1976/77, only 9,152 had completed two modules by 1980/81. (ETTB Annual Report 1980/81)

10. Vocational Qualifications of the Labour Force in Britain and Germany. SJ Prais National Institute Economic Review, November 1981.

leavers require to be trained on a broad-base which will enable them to keep open as many options as possible within a *training family*.

A Pattern of Progression

44. Work on skill clusters and on occupational grouping has been carried out by several organisations,¹¹ but for the purpose of this document the system of 11 *Occupational Training Families* suggested by IMS¹² is used. These *families* are recognised as tentative and are used here for illustrative purposes only. The *Occupational Training Families* are:-

1. Administrative, clerical and office services occupations
2. Agriculture, horticulture, forestry and fisheries occupations
3. Craft and design occupations
4. Installation, maintenance and repair occupations
5. Technical and scientific occupations
6. Manufacturing and assembly occupations
7. Processing occupations
8. Food preparation and services occupations
9. Personal services and sales occupations
10. Community and health services occupations
11. Transport services occupations

Ten criteria were used for the grouping of *Occupational Training Families* based on pragmatic choices. Some of

them profoundly affected the choices eventually made: for instance, the need for the *families* to be acceptable to employers, trade unions, trainers, careers officers, teachers; to be understood and seen as relevant by young people; to be usable for the organisation of training and education and to be seen as a positive asset to a young person's standing in the labour-market.

45. If we relate to a structure such as suggested by IMS, a check list of core skills described and, arguably, validated by the type of research described in Section TWO, together with the opportunity to sample more than one occupation - we arrive at a model such as illustrated in Figure 1.

This indicates how the 11 *training families* could relate to a pattern of progression. (A twelfth - unclassified segment is included simply to indicate the openness of the designations). The outer circle represents the interface of vocational preparation with existing and potential 'level 2' type training and education. The bold outline in Figure 1 shows the individual nature of vocational preparation, and it is shown isolated to Figure 1a. For each young person the programme will comprise an inner-circle of common-core skills, some vocational sampling of which three are shown for illustrative purposes and an outer segment or more specific occupational skills. Having regard to the principles contained in *Vocational Preparation*, each programme should be unique in part at least to each individual; it should relate to at least one *Occupational Training Family* and it should include skills and experiences at each *layer* of the programme.

46. A one-year programme is generally envisaged as necessary to cover the skills implied in any particular outline. For some young people, such as those with special learning difficulties, all available time may be

11. For example data collected through the Young People starting Work Project has been analysed to group and classify occupations on the basis of skill clustering to help careers guidance. This work is detailed in memo No 471, obtainable from the Social and Applied Psychology Unit, the University of Sheffield.

12. Institute of Manpower Studies 1981 *Youth Skills Project*. (The *Families* were amended by IMS in October/November 1982.) More work is being done by IMS on this concept, in a project (RP66) sponsored by the FEU.

Figure 1 Framework for progression (over 1 or 2 years)

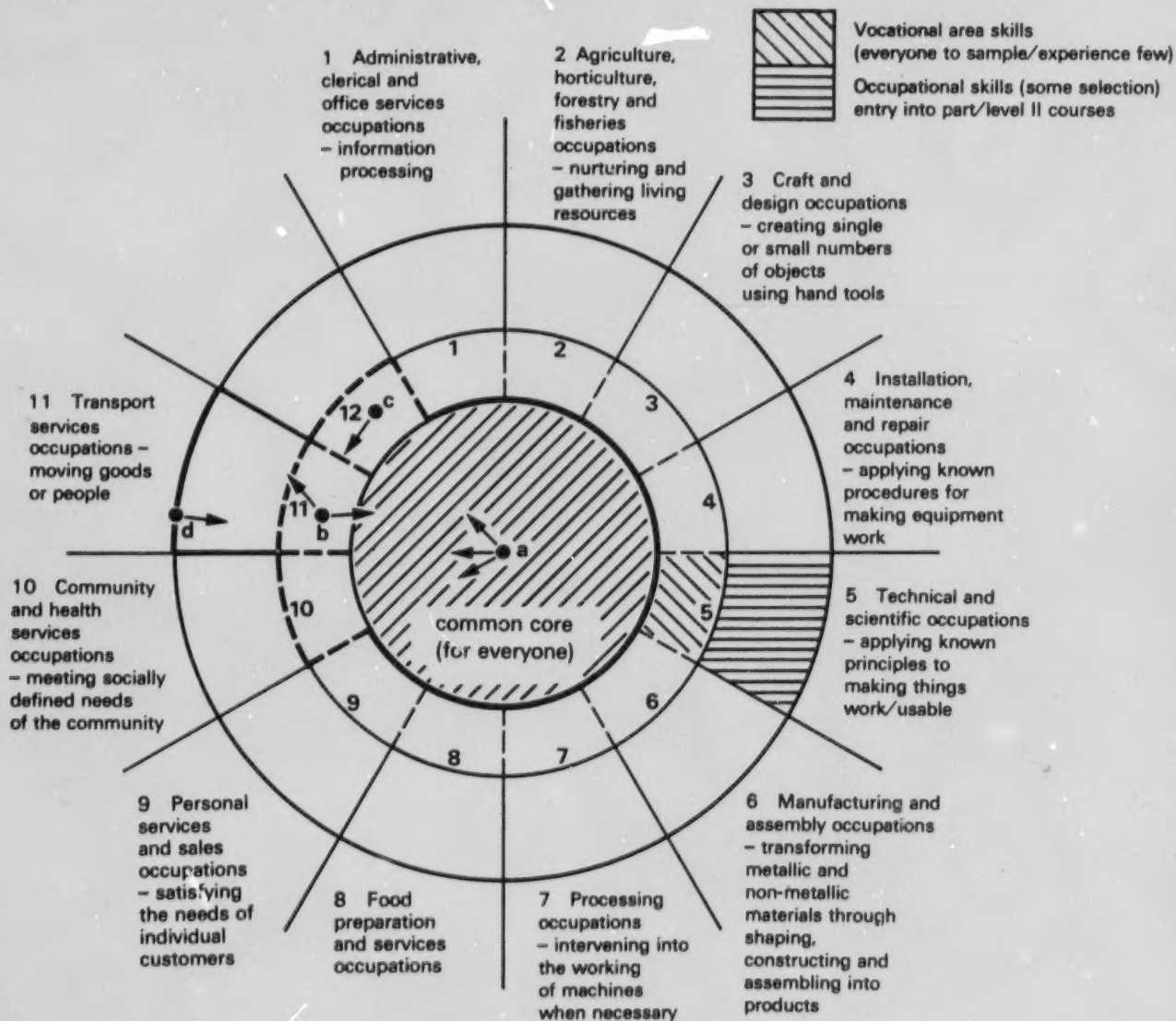
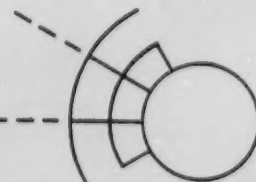


Figure 1a An individual's voc-prep programme



needed for the common-core; but still hopefully through a vocational focus. Others, (eg those who would have obtained an apprenticeship in easier times), should be able to take on extra job-specific studies/skills which would obviously contribute to progression. It is here that *units* of extra skills could be learned. Such a structure, although not critical in its detailed design at this stage, requires a measure of national agreement; but the ingredients appear to be generally acceptable, as suggested in paragraph 36 above. Because it is desirable to relate to the needs of individuals and to local employment situations, it would be generally accepted that a significant element of local curriculum design is necessary. It is here the research described in Appendices 2, 6 and 7 may be directly applicable. By referring to the skill descriptors used in the various jobs in Appendix 6a (Tables 1-5) and Appendix 7 the skills needed for particular programmes can be identified and built into a programme of vocational preparation.

47. Such a structure as shown in Figure 1 will rarely be provided by a single agency. Government, MSC and FEU policy for vocational preparation are all more or less agreed that only a coordinated inter-agency approach can provide the range of opportunities, skills and experiences that are necessary. Thus whether the student/trainee is based at college (or school), with a sponsor or with an employer, a high measure of co-operation between these and other agencies is essential. Colleges can provide only some aspects of working experience; employers and sponsors are not usually able to provide a full range of *basic skills*; the Careers Service offers a service of advice and support that may be difficult to find elsewhere; many voluntary organisations have considerable expertise in the provision of residential courses; the Youth Service has a key role to play by being available and acceptable to young people who have become hostile to any form of structured education and/or training. As we have explained elsewhere¹³ all this requires a process of co-operative *negotiation* to exist between all participants. Only by such a coordinated approach can the full range of support, skills relevance and experience be provided.

48. It is within this context that we suggest the approach to *basic skills* illustrated in Figure 1. On this Figure are illustrated various points in the programme from which learning could commence:

- point a: a teaching/learning approach dealing initially with essential core skills;
- point b. an approach based upon experience in (eg interested in driving in this case);
- point c. an approach based upon experience in another occupational area (eg because of change in local employment pattern);
- point d. an approach based on significant expertise (eg considerable work experience).

(The relevance of d. to adult re-training is apparent.)

49. The acceptability of the model shown in Figure 1 is dependent on an understanding of the uniqueness of Figure 1a. The *basic skills* described by each outline should relate to each individual. By the processes of induction and assessment, the young person will take on board those common core skills from the check-list that remain necessary. The vocational area skills will often result from learning typical skills from a sample of occupations via planned experiences at work or elsewhere. These will invariably differ from person to person. Similarly the occupational skills will be unique as they will be the product of an individual's experience, aspirations and prospects. These may be obtained in part or whole by direct work experience, they will probably relate to specific jobs that are locally available, they may or may not be part of a formal syllabus; within each sector of occupational skills will usually exist sub-classifications and levels of skills, and not all students/trainees will require or be able to cover all of them. (See paragraph 46).

50. All these variables will combine to produce for each student/trainee an individual collection of knowledge, skills, experiences and attitudes related to Figure 1. This collection, within the context of vocational preparation as described in paragraph 47 represents the *basic skills* acquired by each young person. Such is the definition of *basic skills* that we have attempted to describe in this document. Therefore, by *basic skills* we mean those skills *basic* to a learner's progression into a

13. *Vocational Preparation* FEU 1981

higher level education or training scheme – his or her *individual* synthesis of knowledge, skills, experiences and attitudes. Our use of the term relates to all three levels of vocational commitment implied in Figure 1, not to the common core alone. *Basic skills* should not be equated with the traditional concept of *lower-level* skills; for instance problem-solving which appears in the common-core, although sometimes regarded as a higher-level skill, is fundamental and should be available to all. Nor should the term be taken to apply to *product*¹⁴ (ie performance related) skills only. Many *basic skills* (problem-solving again, for one) are *process*¹⁴ (ie activity related) skills which will be developed and improved continually through life.

51. It perhaps follows from the above that if *quality* is to be an essential ingredient for progression, then the involvement of subject experts with a knowledge of the work situation is crucial in the teaching of *basic skills*. So far, for reasons discussed in Section ONE, there has been a general lack of involvement by *mainstream* FE vocational departments in what we have described above as vocational preparation programmes. This is not to say that many vocational subject teachers are not already engaged in implementing many of the principles of vocational preparation in their own subject teaching. But here we suspect the inclusion of these principles is more a function of teacher-style than of deliberate course design. All too often pre-vocational courses are being constructed by simply "cobbling-together" existing vocational examination subjects, having little regard for the supportive framework of personal development and counselling that we need to associate with vocational preparation. This lack of involvement has often resulted in a gap between the skills imparted by general education teachers and the experience obtained in the work situation. Multi-skills workshops run only by general educationalists are rarely able to demonstrate or simulate the demands of the work situation in terms of pace and quality. On the other hand, work experience linked solely to output is similarly unable to guarantee the acquisition of those skills and core-competences essential to progression.

52. The dimension that is often missing is the professional *technical* teachers or instructors able to provide much of the quality and relate it to the work situation. This is not to say that they simply have to

provide the same range of subject expertise as they do with day-release and other vocationally-committed trainees. As we have pointed out, the design of vocational preparation programmes requires them to provide in conjunction with their general education colleagues, a more supportive role than before. Also, with the adoption of the principle occupational groupings (or clusters) such as illustrated in Figure 1, such teachers will have to relate much of their skill-teaching to a context wider than a single job. They will, through profiling, have to identify key skills and around them devise assignments producing the transferability we have earlier discussed in Section ONE. Properly done, the job they are required to do will be extremely demanding: for in addition to a supportive counselling function they have somehow to generalise the learning of specific skills without losing the characteristic of quality and the power of progression to "level-2". This is an essential but challenging role; it requires staff development and support, but above all it requires involvement.

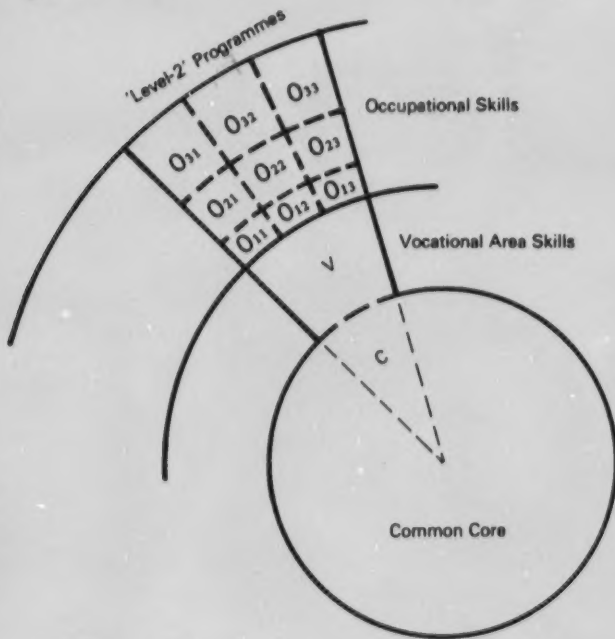
53. Assuming that much, if not all of the above, is acceptable, there remains a problem of curriculum design as to the nature and content of the *basic skills* required to enable progression to be made into "level-2" programmes.

Figure 2 opposite shows the individual outline of *basic skills* to be covered, comprising core (C), vocational area (V) and occupational (O) skills. Some of the core skills will contribute more or less directly to occupational expertise and these are shown as V. The more specific occupational skills are shown as a series of 'units' O₁₁-O₃₃. These are illustrated here, without being prescriptive, to indicate as we say in paragraph 49 that there may well exist sub-classifications and levels. Thus a trainee may cover one or more of the *units* shown according to his/her level of achievement, to the requirements of "level-2" and/or to the local employment situation.

54. To test the validity of progressing the *basic skills* as outlined in Figure 2, several models have been adopted by the Working Party to describe possible ways in which a young person may satisfy the criteria necessary to enter a 'level-2' scheme or programme.

14. see paragraph 10 Appendix 8

Figure 2



The curriculum structure of each model is deliberately different. They are not necessarily meant to relate solely to the occupational training family used in each example. The Models are pragmatic and do not necessarily match the "ideal" shown in Figures 1 and 2 (pages 16,19). Each is summarised below, and on their respective appendices an FEU comment indicates the extent to which they relate to the "ideal".

55. Appendix 9a shows for example an Engineering *process-based* model.¹⁵ This is based on the proposals of the CGLI Hargreaves Committee.¹⁶ The model assumes that engineering can be broken down into a series of fundamental processes, many of which contain their own hierarchy of skills.

The learner will sample processes in the vocational area annulus and this sampling will include job knowledge and skills. The processes can be broken down into progressive units (nominally 50 hours). The same processes can be used as criteria for the learner's progression to more advanced programmes. Further the processes are not restricted to conventional

occupational boundaries and allow for a variety of negotiated programmes.

Entry for this model into 'level-2' will be defined in terms of a measured standard of competence in one or more processes, as appropriate, selected from, for example in Engineering:-

- i. cutting
- ii. drilling
- iii. joining mechanically
- iv. joining by heat
- v. joining by adhesion
- vi. bending and forming
- vii. inspecting
- viii. finishing
- ix. handling and transporting

Included in the process units will be supportive aspects of knowledge and principles.

56. Appendix 9b shows a *task orientated* model in this case related to Construction. The model clusters existing construction occupations into five groups:-

trowel trades, wood trades, mechanical engineering services, general construction operatives and finishing trades.

Trainees will sample tasks in each or some of the five groups. Following the induction/sampling phase trainees will select one group within which to acquire a range of occupationally specific skills or alternatively a number of

15. The principle of allowing progression based on the accomplishment of processes is being piloted by the EITB at their own training centres. Further details are given in Appendix 2.

16. See paragraph 39 and Appendix 9a for a full reference to Hargreaves.

occupational area skills which could range across the five trade groups.

Entry for this model into 'level 2' will be defined as those standards which apply to Construction Industry Training Board 'stage 1' training. Progression will be possible into 'level 2' occupationally specific training based on the assumption that trainees will reach the level of competence in a number of occupationally specific tasks within at least one of the five clusters/trade groups, but not all the job specific tasks in one cluster/trade group because of the nominal duration of the programme being one year.

57. Appendix 9c shows an *objective based* model related in this case to Food Preparation and Service. The model lists the objectives required for progression to higher level work in catering and associated occupations.

Entry for this model into 'level 2' will be defined in terms of the learner's mastery of the listed objectives or a specific end point; for example, an appropriate CGLI certificate.

58. Appendix 9d shows a *Unit based* model related in this case to the Technical Education Council scheme in Technician Studies. This scheme has been developed by TEC in conjunction with MSC. The Scheme has two components, an *orientation phase* and a *main course*. During the *orientation phase* a check list is intended to be used having regard to the skills needed of technicians. Both the college and the student should ascertain whether the student should progress onto the *main course*, and to which broad discipline he/she should be directed. A profile, listing some of the core described in Appendix 3, is associated with the *orientation phase*. The remainder of the core is intended to appear in the *main course* component.

Successful completion of the scheme (TEC level 1 standard) allows progression to TEC Certificate and Diploma awards at Level II.

59. Appendix 9e shows a *core/option* based model, in this case related to the Administrative, Clerical and Office Services occupational training family. The modules shown in the model were those considered by the RSA

in their report on office technology¹⁷ to be the subjects which could be included in the curriculum related to this training family. The Report recommended that clerical and secretarial courses should provide a number of basic modules comprising: communication skills (literacy and numeracy); background to business; office practice and keyboarding; plus a range of specialist options at an appropriate level covering the occupational area. The student will study one or more options appropriate to the local situation, the demands of the option and the ability of the young person and their interest. The FEU model requires the full core to be covered. Generally, for this model, entry into 'level 2' will be determined locally with guidelines supplied by an appropriate validating body. The principle of progression in this model is based on the student gaining access to an appropriate 'level 2' module on successfully completing 'level 1' specialist module.

60. The models of progression we have described above should be relevant both to local requirements and to nationally accredited curricula. It is imperative however that whatever model is used, curriculum bodies should design programmes of vocational preparation that allow a young person to acquire an individual collection of *basic skills* based on the concept illustrated in Figure 1, if it is to be a foundation for future progression. This means adequate fulfilment of the core described in Appendix 3, sampling opportunities through vocational area skills, and progression related to occupational area skills.

Main Points:

61. This section has explored some of the issues involved in providing a progressive structure of education and training based on the skills, concepts and research described in the earlier sections.

The main points are:

- i. One of the more persistent criticisms of vocational preparation programmes has been their lack of

17. *Office Technology: the implications for educating and training in the 1990s*. RSA 1982

progression into more 'advanced' education/training schemes (paragraph 37).

- ii. The nature of the progression will relate to the level of achievement of each individual. Some testing and selection are inevitable elements of progression. FE examining bodies and training organisations can assist the principle of progression by adopting wider entry criteria supported by a profile of a young person's achievements (paragraph 38).
- iii. A few examining bodies and ITBs, have made an interesting start on recognising the possibility of progression from vocational preparation. What is vitally important now is that the various initiatives become generic programmes of vocational preparation and provide for young people to acquire a range of *basic skills* which will be the foundation for future progression (paragraphs 39, 40, 41 and 60).
- iv. Generic programmes will require the 'clustering' of existing narrow training schemes into new and easily understood training families. This will require multi-agency cooperation (paragraph 43 and 47).
- v. The framework shown in Figure 1 provides a basis for generic programmes. Three levels of vocational commitment are implied: common-core, vocational sampling and occupational skills. Each programme should be unique, in part at least, to each individual (paragraph 49).
- vi. By *basic skills* we mean those skills *basic* to a learner's progression into a higher education or training scheme - his or her individual synthesis of knowledge, skills, experiences, and attitudes. *Basic skills* should not be equated with the traditional concept of *lower-level* skills (paragraph 50).
- vii. The involvement of subject experts with a knowledge of the work situation is crucial in the teaching of *basic skills*. To optimise transferability they have to relate much of their skill teaching to a context wider than a single job (paragraph 52).

- vii. To test the validity of progressing the *basic skills* as outlined in Figure 1 and 2, several models have been adopted. The models should be relevant both to local requirements and to nationally accredited curricula (paragraphs 54-60, Appendix 9).

Section Four

Staff Development

62. Staff development will need to be promoted at a number of levels if teachers are to have the skills and support necessary to help young people acquire an individual collection of *basic skills*.

63. The implementation of generic programmes of vocational preparation leading to further progression, as described in this document, will require a commitment at several levels. We have stated in our document *Vocational Preparation*¹ that innovation should arguably begin with the self education of senior management. In colleges, for instance, the way this involves the Principal, a Vice-Principal or Heads of Department will depend on the organisational structure of the college. Generic programmes of vocational preparation mean that the curriculum transcends traditional college departments, subject boundaries and probably single agencies, but responsibility for programme and curriculum development needs to be clearly allocated. The responsible person(s) must join, create or maintain supportive networks both outside and inside the college.

64. The system of vocational preparation as recommended by MSC in its 'Task Group Report'² means that the target group for vocational preparation programmes will be *all* employed and unemployed 16 and 17 year olds. The FEU, and others, would widen still further the clientele to include college college/school based young people in this age group. A corollary of a comprehensive system of vocational preparation is that the ability range will reflect the whole age cohort; consequently vocational preparation and *basic skills* (as we define in paragraph 50) cannot any longer be equated with low status and low level teaching.

65. *Basic skills* teaching and their learning through a relevant vocational focus, demands of the teacher a high level of planning and pedagogic skill which should be recognised. Individuals will be found in a range of departments and agencies who are capable of, and already are, carrying out this role of creating opportunities for young people to acquire a range of *basic skills*.³ Hence the importance of a coordinator at a senior level.

A Re-appraisal

66. Programmes of staff development in colleges of further education usually include some or all of the following elements:

the acquisition or enhancement of teaching qualifications;

the enhancement of discipline or subject qualifications;

personal development;

development of an individual's interests;

developments of interest to the institution.

Programmes are often related to expressed needs, and are acknowledged almost by an act of faith as adding to the quality of the education and training provision.

Although there is difficulty in trying to measure change in terms of teaching or learning performance arising directly from staff development, but in terms of time, cost and effort the investment is large, the need for staff development is paramount.

Staff development programmes are operated using a variety of means, including attendance on courses, secondments, new experiences and 'in-house' provision, but of these means, attendance on courses has tended to dominate most college programmes.

67. Because of the changes further education is being asked to make, some of which were outlined in Section ONE, it is timely for further education to re-appraise its staff development provision, especially if the notion that *all teachers are teachers of basic skills* is accepted. What is being suggested here is an approach to staff development arising out of the curricular demands of generic programmes of vocational preparation; ie curriculum-led staff development.

68. In our publication relating to teaching staff development for vocational preparation⁴ we suggest that

1. *Vocational Preparation* FEU 1981.

2. *Youth Task Group Report* MSC 1982.

3. See Coombe Lodge, *MSC Exemplary Projects Report*, paragraph 148, 1982.

4. *Teaching Skills* FEU 1982.

a self assessment process may be required, for use by management with individual teachers and programme teams. The possible framework for this assessment is covered by 7 groups of questions under the following heading:

To what extent are teachers confident in...?

- i. A Student Centred Approach
that they have had successful experience of student centred curriculum
- ii. Curriculum Innovation
that they are able to introduce curriculum innovation
- iii. Method Innovation
that they are able to use new teaching/learning methods
- iv. Team Co-ordination?
that they are able to co-ordinate activities within a team.
- v. Team Membership?
that they have had successful experience of team membership
- vi. Liaison and Negotiation
that they are able to liaise and negotiate
- vii. Basic Skills teaching
that they are able to teach basic skills

69. The publication suggests that a programme for staff development may be prepared from the response to questions.

Under the heading of basic skills teaching are the following questions.

To what extent are staff confident in their ability to teach basic skills?

- by understanding the concept of a common core checklist of skills and the way in which it has to be further developed to include a local dimension relating to the needs of individual students;

- by an awareness of their own expertise and knowledge in the areas of the common core;

- by an awareness of the relationships between the areas of the common core and vocational studies;

- by appreciating the need to teach common core skills through vocational topics and vice versa; and

- by appreciating the concept of generic skills and the problems of teaching for transferability and progression.

Abstracted from other headings we suggest that the following questions need also to be addressed because of their direct relevance to basic skills.

To what extent are staff confident of their experience with a student centred approach?

- by teaching within a flexible curriculum framework which seeks to integrate different subject and/or vocational studies;

- by negotiating with the learners an approach which seeks to work from their perceived and/or identified needs; and both recognises and acts upon feedback from them;

- by providing learners with formative as well as summative assessment in a systematic way, perhaps through the operation of checklists, student profiles and/or appraisals; and

- by providing relevant and appropriate learning experiences.

To what extent are staff confident in the ability to introduce new curricula?

- by interpreting aims and objectives and devising schemes of work to implement them;

- by responding to the requirements of different teaching and learning arrangements;

- by fulfilling the tasks allocated to or taken on by the team, within constraints of time and resources.

70. We also suggest that staff might gain experience of the demands of vocational preparation in a number of ways such as:

1. Induction and information: particularly important for new - and part-time members of staff, so that the *aim* and *contexts* of schemes are understood.
2. Pedagogic training: achieved by formal external courses, or by letting inexperienced staff work with more experienced, eg on new workshop methods.
3. Guided practice: achieved by joint teaching, and by staff development workshops to develop curricula and materials.
4. Networks: either in-house or between institutions and agencies; visits, seminars.
5. Team teaching: a team of people working together might aim to develop their collective expertise, by ensuring that the expertise of an individual member will complement that of others in the team.

71. What the above paragraphs refer to is a *pro-active* approach to staff development ie planning for the next session. However many colleges do not have this luxury of time and have to carry out staff development when the programmes are running, ie a *reactive* approach. Outlined below is one college's *reactive* approach to staff development.

72. The programme started with a staff meeting to identify their own needs. The preparation of a list of teachers' needs was seen as an important first step in developing a staff development programme. The list of expressed needs clustered under the following major headings:⁵

- A. KNOWLEDGE
- B. CONTENT
- C. SKILLS
- D. RESOURCES

73. The college's translation of this list into an active staff development programme started with a pattern of provision designed to provide -
FLEXIBILITY, CO-ORDINATION and *TIME*.

74. A range of provision from which a member of staff was able to select a set of activities was then evolved.⁵

75. The commonality of the two approaches described above is that both the *pro-active* approach and the *re-active* approach to staff development involves staff at all levels being influential in the design of their own programme of staff development arising out of the curriculum demands of programmes of vocational preparation in general and of teaching *basic skills* in particular. The two approaches allow staff development to become an integral part of curriculum development.

Main Points

- 76i. Staff development will need to be promoted at a number of levels and could arguably begin with the self-education of senior management (paragraphs 62-63).
- ii. Generic programmes of vocational preparation mean that the curriculum transcends traditional college departments, subject boundaries and single agencies. Hence the importance of a programme co-ordinator at a senior level (paragraph 63).
- iii. A corollary of a comprehensive system of vocational preparations is that the ability range will reflect the whole age cohort; consequently vocational preparation and *basic skills* teaching is not to be equated with low status and low level teaching (paragraph 64).
- iv. Vocational preparation in general and the teaching of *basic skills* in particular demands a high degree of planning and pedagogic skill

5. This analysis, its translation into a programme and its availability to staff are described in detail in Appendix 11.

which should be recognised (paragraph 65).

- v. We suggest that a pro-active and reactive approach to staff development arising out of the curriculum demands of vocational preparation, allowing staff development to become an integral part of the curriculum development (paragraphs 67 and 75).
- vi. Staff might gain experience of vocational preparation by induction and information, pedagogic training, guided practice, participation networks, and team teaching (paragraph 70).

Section Five

Summary

77. The main aim of this document has been to describe *basic skills*, their place in programmes of vocational preparation and their potential for progression into more advanced programmes. By *basic skills*, we mean those skills *basic* to a learner's progression into a higher level education or training scheme – his or her *individual* synthesis of knowledge, skills, experiences and attitudes. Our use of the term relates to all three levels of vocational commitment implied in Figure 1 Section THREE, not to the common-core alone. *Basic skills* should not be equated with the traditional concept of *lower-level* skills; for instance problem-solving which appears in the common-core, although sometimes regarded as higher-level skill is fundamental and should be available to all. Nor should the term be taken to apply to *product* skills only. Many *basic skills* are *process* skills which can develop and improve continually through life (paragraph 50).

78. The term *skill* is used to describe a range of competencies:

The application of skill cannot be dissociated from knowledge, understanding, experience, attitudes and values. Young people require a range of *basic skills* to help them to be adaptable and to provide a foundation for further learning. It is reasoned that a relevant/vocational focus often provides the right kind of stimulus for young people to see the usefulness of learning and consequently to continue their development. The development of a wide range of skills; through an approach such as teaching *skills across-the-curriculum* will be progressed if all teachers see themselves as teachers of *basic skills* and they, in turn, receive support and recognition for their efforts.

Transferability of skills can be enhanced by a proper curriculum design, by enriched learning processes, by teacher awareness and by the encouragement of *skill ownership*.

79. Research findings confirm the need for a common core checklist to include literacy, numeracy, practical skills, interpersonal and problem solving skills supported by suitable attitudes.

The research thus serves to remind teachers that they carry a heavy responsibility and are in an influential

position to affect a young person's subsequent behaviour in work and in life generally. (paragraphs 27-34, Appendices 2, 6, 7).

80. Models of progression described are relevant to both local requirements and to nationally accredited curricula. To provide a young person with an individual collection of *basic skills* which will be a foundation for further progression will require co-operation among the many agencies providing work experience, education and training (paragraphs 35-60 and Appendix 9).

81. Staff development will need to be promoted at a number of levels and could arguably begin with the self-induction of senior management. We suggest curriculaled approaches to staff development encouraging staff development to become an integral part of curriculum development. (paragraphs 62-75).

Appendix 1

Membership of Basic Skills Working Group

G Allcroft	Vice Principal, Hertfordshire College of Building	C Townsend	Research Fellow, Institute of Manpower Studies
T Beaumont	Vice Principal, Huddersfield Technical College	J Webster	Principal Lecturer, South East London Technical College
alternating with			
D Baxter	Head of Department, General and Communications Studies, Huddersfield Technical College	FEU	
W Bolton	Head of Research Development and Monitoring Section, TEC	Jack Mansell	(Chairman)
R Brown	Senior Lecturer, Garnett College	Brenig Davies	(Secretary)
M Cahill	Co-ordinator of the Schools Council's Skill for Employment Project		
A Cass	Principal, Wearside College of Further Education		
DR Holmes	Head of Production and Mechanical Engineering Department, Brooklands Technical College		
H Hutson	ILEA FHE Curriculum Development Project		
L Jackson	HMI		
DA Jones	Adviser for Craft, Design and Technology, Bradford Metropolitan Council		
D Mathews	Manager, Selection and Training Studies EITB		
N Oates	MSC		
W Riley	RSA (to April 1982)		
J Davidson	RSA (from May 1982)		
C Sutcliffe	Engineering Development Manager, CGLI		

Appendix 2

A review of some of the research in the area of skills and the possible implications of this research for vocational preparation
by R.A. Brown, Garnett College, ILEA.

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6. The Possible Contribution and Implication of Skills Data for FE

7. Conclusions

8. Research Instruments and Terminology

References

Introduction

1.1 The publication by the MSC Training Services Agency discussion document 'Grouping of Skills' in 1975, gave an impetus to an already increasing interest in this country in the provision of an education and training system capable of meeting the needs of manpower mobility and retraining. With increasing problems of unemployment, and a substantive shift in the demand for skills changing the whole nature of employment opportunities, that interest has broadened into the need for a more generic or broad based approach to vocational preparation and the establishing of a range of different research projects to explore the whole concept of grouping skills.

1.2 Research on behalf of the Schools Council (Smith, 1980) showed that close on fifty projects were, or had

been, undertaken into the whole area of skills for employment. Some of these are major research projects requiring three or more years for their completion and involving whole teams of researchers, educators etc, supported by Government funding; others are not quite so elaborate. In this paper the limited time available allows the consideration of only those major projects which appear to have important implications for vocational preparation curricula and the future provision of education/training within this country.

2. Outline of the key research

2.1 An analysis of the skills research literature indicates that there have been broadly two approaches to identifying skills:

- i. what young people actually do in work and
- ii. what employers value in young people

2.2 Some of the research involved using and developing special research instruments; an explanation of these and the terminology is given in Appendix 2b.

3. Key research: 'What is it young people actually do in work'

LONDON INTO WORK DEVELOPMENT PROJECT (LIWDP)

3.1 This is a three year project jointly organised by the MSC/ILEA/DES which seeks to develop, as part of the transition from school to work, new or modified learning programmes of vocational preparation. Some of the strategies incorporated in the programmes are adapted from existing courses, others are novel. The main difference between these programmes and others aimed at similar young people lies in the emphasis on work-related learning based on the concept of, and research into, generic/broad based skills obtained from an analysis of jobs in the local labour market. The research body responsible for the project is the Institute of Manpower Studies.

3.2 Until recently, London escaped the unemployment levels experienced by other regions and tended instead to be characterised by a mismatch of unsatisfied demands for certain office and industrial skills. The occupational mismatch arose because the unemployed did not possess the skills that employers were seeking or because people were reluctant to accept apparently suitable jobs due to the time, cost and inconvenience of the daily travel involved. Consequently the development, through the London Into Work Project of new or modified programmes of vocational preparation, which embodied the relevant basic skills of a broad range of job vacancies within the local labour market, was seen as an initiative which could make a valuable contribution to meeting the needs of young people trying to obtain work within the capital.

3.3 Taking cognizance of both American and Canadian research, the London Into Work Project research team developed a descriptive system to obtain information about jobs in 'common terms'. Information related to HOW OFTEN THE WORK IN A GIVEN JOB CALLED FOR THE USE OF A SKILL and the extent to which a skill HAD TO BE LEARNED BEFORE GETTING THE JOB. In addition, provision was also made in the system to collect examples of skill usage, in particular where it was used, why it was used, and what was involved in its use. Information for the project was collected under seven broad headings:

Main Title	Number of Skill Descriptors
Basic Calculations	40
Measurement and Drawing	54
Listening and Talking	41
Reading	28
Writing	48
Planning and Problem Solving	26
Practical Skills	100

To allow rapid and consistent collection of the data a questionnaire approach was chosen as the format for the descriptive system. In this way, data analysis by a computer is more easily accomplished.

3.4 With the research seeking to generate and use skill information in the low level of work, jobs which are selected for profiling in terms of these basic competences of generic skills are those in which the employer required very few if any academic qualifications as a condition of entry. Jobs are selected from a data bank of jobs built up from the ILEA Careers Service Information in the Divisions of Wandsworth, Lewisham and Paddington. These three areas are the local labour markets to the three project colleges. Central London was also used which is a potential job area for young people in any part of the Capital. Jobs are analysed using a skills questionnaire. The resulting profiles show fine distinctions between different types of jobs. Generic skills, in this project, are defined as those used in more than half the jobs analysed.

3.5 The findings of the research appear to have potential value to the teacher in both school and college. Already the data collected has been used to generate 'checklists' for the analysis of assignments being used within the LIWDP, to assist in the devising of new assignments, for developing new teaching strategies, assessment materials, etc. 'Context' cards, which provide information on the usage of a particular skill, have enabled a start to be made in producing 'skill libraries' in which particular skills are cross-referenced to jobs. Such 'libraries' would enable young people to identify opportunities related to particular competencies they might possess, as well as indicating areas of potential transference. However, while 'generic' in the research project denotes skills used in a high proportion of jobs, what it does not denote is the degree of importance of that particular skill. For instance, the application of a manipulative generic skill for a garage operative would be the use of spanners for undoing and tightening various kinds of nuts and bolts etc. This would also include problem solving generic skills in knowing the size spanner and type to use - open end or ring for instance. But the degree of importance in correctly tightening a wheel nut is greater than that of an exhaust system nut yet is the same generic skill; this point applies equally to the Young People Starting Work Project. Nevertheless, there would appear to be merit, from the educational viewpoint, of considering applying the approach to a higher level of work such as craft and technician training where the approach may enable the supporting education schemes to be more reflective of actual needs

and developments and the programmes in general more closely integrated.

YOUNG PEOPLE STARTING WORK PROJECT (YPSWP)

3.6 The YPSWP is a three year project jointly funded by the Manpower Services Commission and three Local Education Authorities, Leeds, Liverpool and Coventry each of whom are offering the co-operation of schools and authority staff as test-beds for the research development. It consists of a number of sub-projects in these cities which are designed to both complement each other and to increase understanding of the skill requirements of jobs in the context of the transition from school to work. Thus, in Leeds, a large scale longitudinal study is taking place of young people who left school in 1978 and 1979. In Liverpool a study of school leavers in an area of high unemployment is taking place and, in Coventry, a follow-up study is being made of young people who have participated in clerical and engineering courses as part of the Youth Opportunities Programme. The project is being carried out by a research team from the Medical Research Council's Social and Applied Psychology Unit at Sheffield University.

3.7 Whilst the project has some similar aims to the LIWDP, namely the development of an instrument to assess the skill requirements of jobs entered by the less able school leaver and the application of the findings to the curricula, careers guidance etc, it has one important addition - the longitudinal study of young people as they leave school and enter the world of work (Leeds sub-project). The objective here is to examine, in addition to skills and qualifications, the attitudes and values of young people. With a frequently heard comment that many of the young people on pre-vocational courses have negative work attitudes and only limited aspirations, a longitudinal study of this kind might throw some valuable light onto those 'affective' factors which play such an important part in obtaining and keeping a job.

3.8 The inventory which was developed by the research team has been given the title of Job Components Inventory (JCI). Whilst being similar in some respects to the Canadian Generic Skills Inventory and thus the LIWDP Occupational Skills Profiling Questionnaire the Job Components Inventory is in effect

a new instrument with its own features and internal characteristics. In devising the inventory the researchers aimed for an instrument which would yield theoretically valuable information about job components and job families. To this end, the inventory has five main sections:-

Main Sections	Number of Items
Use of Tools and equipment	26 categories (with up to 15 tools in each category)
Physical and Perceptual Skills	22 items
Mathematical Skills	54 items (covering 27 different aspects of mathematics)
Communication Skills	19 items
Decision Making and Responsibility	11 items

In addition, information is collected about the job holder and the psychological well being etc. Like LIWDP, this project used a frequency scale.

3.9 Initial findings from this sub-project are very concerning since they demonstrate that for some young people, and in particular those who are highly motivated to work, for females, and for those with social class 4 and 5 backgrounds, the psychological consequences of being unable to find work may be serious. In addition, the initial work has shown the particular vulnerability of certain groups, such as West Indians, to unemployment and employer discrimination (Stafford et al, 1980).

3.10 Both the Young People Starting Work Project and the London Into Work Project have similar aims and both are addressing themselves to the problems of transition from school to work. Data obtained through the Young People Starting Work Project has already been used by the Careers Service as a basis for the development of materials and assignments for careers lessons, by training workshops to review training content and by some secondary schools who are considering its application to school curriculum development. In the case of schools, some of the broad occupational groupings used in the research have equivalent subjects in their curricula, for example, Commerce (clerical) and Metal Work (skilled engineering). Thus, the extent to which the school curricula reflects the skills identified within a corresponding broad occupational grouping is a

matter of interest and potential importance. The data could indicate to teachers how basic skills may be overlooked or provide new insights into the relevance of skills being already taught.

BASIC SKILLS CHECK-LIST PHOENIX TRAINING WORK PROJECT

3.11 One very interesting outcome of the LIWDP research was the development by M Freshwater of a Basic Skills Checklist for use with the Phoenix Training Workshop. Made up of exactly the same list of skill descriptions as those used in the LIWDP, the checklist is designed to be used by both teachers and trainers alike as a means of analysing the work that the young people are engaged in doing. In the Phoenix Training Workshop Project, supervisors recorded on the checklist the skills that were required to do the work in their sections under four headings:-

- a. work done by trainees;
- b. work done by supervisor;
- c. work done by either trainee or supervisor;
- d. skills desirable on entry to the section.

On the basis of this information a Basic Skills Matrix was drawn up to indicate those areas of work where skills were being developed and those where changes in training methods could increase the opportunities for skill development. In addition, the Matrix showed the different demands made by each section and possible areas of transference.

3.12 An analysis of this kind enabled a much clearer identification of such factors as: what learning was potentially available within the workshop, the different demands of different products, the supporting requirements in terms of social and life skills, future policy and products, etc, as well as a need to assess what competences were already possessed by the young people entering the sections. To this end a special induction programme was devised which not only served to make the young people aware of their abilities but also helped in placing trainees into appropriate sections.

3.13 By use of the checklist it was possible to derive maximum benefit from the opportunities the workshop could make available to the young people, to more accurately record the progress of trainees through the workshop and involve them more in the assessment of their own learning, to consider the benefits of difference production methods and when to introduce new projects. In short, the checklist provides a simple and valuable means by which the individual needs of the trainees could be identified, and the appropriate resources of the workshop utilized.

3.14 The work on this project has led to some conflicting demands of production and training being removed and a new model of operation being developed. With Training Workshops now forming an important part of the provisions for training and education under YOP, and with a growing awareness that such workshops often have difficulty in overcoming such constraints as having to produce products to provide revenue and at the same time provide a balanced programme of training to increase the trainees opportunities of gaining employment, there is a clear and urgent need to provide active support for workshop management and staff to enable them to overcome these constraints. Its already proven value for Training Workshops indicates the value of the approach for FE. Use of the checklist could enable skills taught to be more easily identified as well as serving to alert teachers of where skills are being omitted. In this way it may be possible to provide not only more comprehensive programmes of education and training but also to ensure that young people participating in such programmes can have their achievements and competencies identified and, it is to be hoped, credited by such means as a profile. (A detailed description of the Phoenix Workshop Project is provided in the MSC reports DTP 22, Volumes 1 and 2).

3.15 THE FOOD, DRINK AND TOBACCO ITB, in its early research, developed a system for describing the elements of job tasks with a view to identifying differences and common features of jobs in different occupational groups. In addition, such a system would aid manpower planning and the establishment of training schemes, occupational mobility and careers guidance. Data was collected on almost 200 jobs in a range of skilled and unskilled occupations, clerical work,

the service industries and administration. Analysis of this data identified some 120 'behavioural' elements and 76 'knowledge' elements which were then able to be categorised according to the way they clustered with different occupations. This work was seen as providing a useful basis for programmes of vocational training and education and increase the chances of occupational mobility.

3.16 Further research by the Food, Drink and Tobacco ITB into basic skills profiling has included developing a formula for establishing the degree of importance of basic skills in carrying out the processes of an operation. As part of this same project the ITB has illuminated some of the problems associated with the transferability of skills. The investigation involve overlaying one group of skills deployed in a particular production process onto the group of skills deployed in another seemingly similar process, to identify areas of overlap and deficiency. The problems encountered in transferring groups of workers from one process to another showed that workers switched from line A to line B soon adapted and learned the skills required for proficient performance in line B. However, when line B workers were switched to line A the proficiency required was not obtained. Further investigation revealed that it was not a simple matter of the worker transferring skills from one process to another but rather that group A workers had learned a range of fundamental skills which had given the skill foundation upon which to build the new skills required for line B. Line B workers had fewer fundamental skills and therefore could not adapt to the process of line A without specific training in the requisite fundamental skills.

3.17 THE RUBBER AND PLASTICS PROCESSING ITB PROJECT established a joint programme with the DES and MSC to foster integration of the education and training elements of Unified Vocational Preparation Courses within its industry. From its work with UVP courses the Board identified and classified the skills required in a wide range of occupational categories.

3.18 The classification drawn up by the Rubber and Plastics Processing ITB allocates the skills to one of nine categories such as, Work Skills; Literacy, Numerical and Communicative Skills; Health and Safety at Work, and so on. Most of the skills which are grouped in these

categories are basic social and life skills eg form filling, getting on with people, telephone techniques, handling money, wages and deductions etc. The list provides a useful checklist for both educationalists and employers.

4. Key research: 'What employers value in young people'

4.1 The findings of the quantitative research into what young people actually do in work across the range of occupational families has much in common with the qualitative research into what employers value in young people if they are to improve and benefit from the training and experience of work.

4.2 The A to Z STUDY carried out by the Industrial Training Research Unit (1979, publication SY4) is frequently quoted as evidence of the important part that personal qualities play in accounting for the differences in those young people of limited ability who make significant progress in their first jobs, and those who do not. In the study supervisors, in a wide range of occupations, were asked to describe the specific items of behaviour, and incidents, which characterised the best and worst of their trainees. Their answers, which focussed more on personal attributes than on job skills, were compiled into a list of qualities which were published in the survey report.

4.3 The CRAFT, DESIGN AND TECHNOLOGY PROJECT being carried out by the Schools Council Working Party on the Craft, Design and Technology Curriculum to age 16+ is of particular interest, and has pertinence for technology and engineering. The working party considered that detailed discussions with employers and workers in technical/craft industries may help to identify the required personal and technical competencies developed in school workshops and drawing offices. The project attempted to match the perceived industrial demands with actual everyday experience across the four occupational groups, namely, operative, craft, technician and student/professional. One of the assumptions underlying the research, which was confirmed by the enquiry, is that it is in the area of general and transferable skills and attitudes, rather than in specific skills, that a match between craft, design and technology and the requirements of industry is likely to

be found. Attention was also brought to the marked variation in the academic standard demanded of craft applicants in the North of England and those demanded in the South. However, there seems to be no corresponding difference in standard of performance at work when trained, nor is there a marked difference in career opportunity. The report says: "This suggests that the qualities needed for a satisfactory working life relate more to personality, attitudes to work, communication skills, and motivation than to performance at school in what are considered academic subjects". (SC, 1981. p10)

4.4 THE ROAD TRANSPORT ITB, to aid careers guidance, selection and school curriculum development, established a working party of representatives of the industry, trade unionists and educationalists to prepare a profile of the skills and attributes needed for entry to the employment of light vehicle mechanic. The profile provides information on the nature of work undertaken, technical skill requirements, personal and social requirements as well as information sources related to the profile requirements.

4.5 The findings of these three projects are both significant and confirming for many teachers. Significant in so far as they focus attention on the fact that the possession of specific practical skills alone is not sufficient to obtain and hold a job; confirming, that in many jobs, personal qualities and attitudes are just as, if not more important. Teachers, who have experience of working with these young people, often comment on the negative attitudes held by these young people and point to some of the contributing factors - unsatisfying experiences of school, and the low status of the jobs they may have to accept and the demoralizing and confidence draining experience of being unemployed. If young people can acquire a core of skills which have applicability in many situations and, through appropriate teaching strategies and experiences, be made aware of this fact, then it is possible that their level of confidence might be built up and more positive work attitudes developed. The notion certainly warrants further investigation.

4.6 The work of the Industry Training Boards has focussed upon the basic skills needed by young people entering the industries and upon the way skills clustered

with different occupations. Knowledge of this kind may enable careers teachers to give more informed careers guidance and FE and school teachers to consider the particular vocational needs of young people entering these industries. As the RTITB point out in their Light Vehicle Mechanic Profile (para 2) "there is often considerable mismatch between what employers expect and need from school leavers, and the kinds of abilities fostered by much of the school curricula". While FE is more in tune with the needs of Industry than schools, the research by the Training Boards into basic skills may well prove very valuable to those responsible for vocational preparation curricula by ensuring that young people are provided with the range of basic skills that will enable them to subsequently adapt to the changing processes of industry.

5. Perceived Needs and the Problem of Discontinuity

5.1 The FEU, in its document Vocational Preparation (1981), state that the "content and aims of vocational preparation are derived as much from the perceived needs of the young people themselves as from a predetermined range of disciplines" (para 33). This is an important and timely reminder that in this rapidly expanding area of work many courses try to provide individual programmes of learning which provide for individual needs and which encourage the young person to take increasing responsibility for their own personal development and learning. However, given that all young people should experience programmes of vocational preparation as a contribution to their general education, self-fulfillment and employability, not to mention the benefits to the economy and society, there remains the problem of the discontinuity that exists between vocational preparation provided by schools and FE - and the more advanced and job specific skills associated with the emerging new traineeship and new apprenticeship system.

5.2 THE PROBLEM OF DISCONTINUITY which already exists has been an expressed concern of the FEU for some time. The lack of coherence among the various programmes of vocational preparation such as UVP, the various elements of YOP and college based LEA provisions is serving to undermine the value of many

vocational preparation schemes. At the present time many school pupils are studying modules or units of BEC and TEC programmes with a view to receiving exemption and credit transfer to higher level programmes when they later enter FE. They are, so to speak, ensuring continuity and coherence in their programmes of vocational preparation. Link courses provide, for many other school pupils similar continuity, even enabling some young people to obtain an apprenticeship and undertake further studies at the college. For these young people a natural progression exists in their course of study. In many of the current vocational preparation schemes now being offered to unemployed young people not only is there little chance of them finding a job when they complete their course, but also very limited opportunities for them to progress from it.

5.3 With increasing numbers of young people now returning to the unemployment register after participating in some form of preparation, the need for some framework of provision which integrates to allow young people to move both laterally, into a similar level opportunity, and vertically, into a more demanding opportunity, is becoming paramount. The FEU, in its Vocational Preparation document, has already suggested an approach to this problem based on a common core of objectives which "once constructed can be used as a checklist against which a young person's previous experience can be matched and... a programme negotiated" (para 43). With ideally, many different agencies providing the learning experiences required for a sound vocational preparation scheme, it might be possible - and would certainly be desirable - to have a common core of basic skills which is acceptable to all involved. If this could be achieved nationally, it could form the essential structure of a whole range of provisions and would allow a structure of higher level skills to be built around it.

5.4 The original Grouping of Skills document (MSC/TSA, 1975, para 3) considered the 'model' it was outlining as a possible framework for ensuring "the availability of an integrated service of training and education throughout working life". The current moves by the Government to meet their promise of 'real' vocational preparation for the young unemployed, possibly through the traineeship concept, are dependant

upon such a framework being found. A framework on which can be built an efficient, and effective, progressive structure of learning. Two important and encouraging developments of using the common core as a checklist to assist in efficient progressive learning are the pilot work of the Engineering Industry Training Board (EITB) in their own training centres and the work of the Craft and Design Teachers working party in Bradford who have compiled a common core of craft and design learning objectives.

5.5 EITB PROGRESSIVE LEARNING SYSTEM has been introduced following pilot work to adapt the modular system of training in an attempt to make the training more efficient by maximising on the trainees vocational preparation experience and job specific interest. By using the school and FE curricula as a checklist of experiences and competencies, the trainee is 'fitted-in' to an appropriate stage of the training programme which the trainee has partly negotiated by electing to start his training programme in a particular job-specific area. The gaps in the trainee's foundation and fundamental skills will be acquired as the training progresses.

5.6 THE MIDDLE SCHOOLS, A BASIS FOR CURRICULUM DEVELOPMENT REPORT arose from the reorganisation of the Primary and Secondary education of Bradford into Middle and Upper schools. Teachers of Craft and Design were faced with the problem of starting to teach Craft and Design to pupils two years later than they did under the previous system. The problem was exacerbated by the high number of small middle schools feeding into fewer but larger upper schools. The result was that pupils were transferring at various stages of skill and knowledge development in relation to Craft and Design terminal standards. A working party was set up of representatives from the middle and upper schools to examine the problem. After some considerable time and local research a solution to the problem was found in the compilation of an agreed common core of Craft and Design learning objectives, to be used as a checklist of fundamental skills which should be experienced by the pupils before entering the upper school.

5.7 The local research of this project also highlighted and personified the attitudinal problems surrounding the status of engineering in the school curricula. Attitudinal

problems are, of course, not confined to schools. (Those who have taught in FE will tell of the divide which still exists between some teachers of General Studies and teachers of technical subjects). What this does illustrate is that an examination of the curricular interfaces requires more than agreement on a common core – in fact this already has been well researched and there is broad consensus on the content of the common core – it requires an appreciation of the various objectives in education and training to bring about a change in attitude and a greater understanding of each other's role. The use of skills analysis to identify basic and common skills, the grouping of skills and the use of skill checklists may not only help to bring about this change of attitude but also provide much of the framework essential for a progressive learning system.

THE INSTITUTE OF MANPOWER STUDIES 'YOUTH SKILLS PROJECT'

5.8 Of considerable significance to vocational preparation programme design is the relationship of skills to local job mobility. Bridging the discontinuities for a progressive learning structure cannot ignore the possible need for young people to move to an area of the country where there may be work of the type for which they have skills. The Youth Skills Project is applying itself to this problem and has recommended a system of 11 occupational training families. The Youth Skills Project seems to herald a more pragmatic approach to the problem of matching curricula to employability by designing local 'training outlines' which will have national currency and acceptability to employers, trade unions and others working in the labour market, eg trainers, careers officers and teachers in FE and schools. The project draws on much of the grouping of skills research and is considering the application and implementation of this research, by developing a model of a Traineeship Framework which consists of three interlocking components namely:-

Occupational Training Families
Local Labour Market training opportunities
Training Outlines

5.9 The work is by the Institute of Manpower Studies, who are responsible for the Youth Skills Project, is

attempting to find ways of identifying the number and kind of training places in each locality and assessing their potential contribution to the traineeship curricula. The experiences provided by the curricula will give young people a foundation for working in any of the group of occupations it represents.

6. The Possible Contribution and Implications of Skills Data for FE

6.1 UP-DATING OF CURRICULA. In the past the pattern of skills required by a given occupation were comparatively stable and predictable. Where changing patterns of skill were demanded, the process of change produced little pressure in terms of speed of change. This condition has enabled colleges for many years to offer, on a full-time or day-release basis, courses to prepare or support young people who have chosen these occupations for their careers. The situation, however, is now changing quite rapidly. The comparative stability of many work areas is being replaced with changing patterns of skills, organised into more and more complex configurations. This might enable changing occupational demands to be identified in a way that would assist colleges to construct learning modules to update and retrain workers or modify where necessary the content of existing provisions.

6.2 ANALYSING COURSE CONTENT. A skill based approach depends, for much of its success, on a detailed analysis of the learning experiences being provided. It is fairly evident that you cannot identify those particular experiences which are not being provided. It is evident that you cannot identify those particular experiences which are not being provided if you do not know the content of the course initially. This, at first sight, may seem a relatively straightforward operation but it is very time consuming and difficult. Skills analysis of the psycho-motor field (manipulative skills) is a well practised and common occurrence, analysis in the cognitive (knowledge) and affective (attitudes) domains is far less frequently practised. Communications and literacy assignments present particular analysis problems and yet both are crucial areas of skill development. Very little learning is not hierarchical and that in itself creates further analysis problems, yet the identification of different levels of

learning is especially important for vertical and horizontal curriculum integration. There are many teachers who would require support to do the work. A full list of developmental activities in which course staff will probably require support for this general area of work is presented in the FEU policy statement Vocational Preparation (1981, para 55). The particular demands of implementing research of this kind must be added to that general list.

6.3 A BALANCED CURRICULUM. By identifying the full range of skills which are common to a group of related occupations, or a broad spectrum of jobs, it might be possible to achieve a balance between an approach which is completely general and one which is narrowly specific. In this way important basic occupational skills would not be overlooked and the personal development needs of the young person would be protected. At the same time with growing numbers of young people now entering these courses with good levels of competency in basic skills, the identification of common occupational skills which require higher levels of ability, eg reading a micrometer, typing a letter, planning a menu etc, would enable a range of experiences to be provided which allow the young person to broaden and deepen their knowledge and abilities to a recognised access level for other courses of training opportunities, as well as increasing the range of skills they have to offer for employment.

6.4 TRANSFER OF LEARNING. Whilst there are few learned abilities which are not carried over into new situations, it is the recognition that this transfer of learning occurs which so often makes the difference in someone attempting to cope with a new situation or simply refusing to attempt it. The A to Z Study, weighted the two most important attributes of young workers as Versatility and Initiative. A basic skills approach, because it provides information of the competencies demanded by given tasks and occupations, enables teaching strategies to be employed which exploit and built upon this 'transfer value'. As Gagne in *The Conditions Of Learning* (1970) points out, transfer of learning can occur in two ways, laterally and vertically. The former is the direct application of a rule of knowledge to the solution of a problem, the latter, the increased capability to learn something new as a result of the previous learning. Often the failure of young people to see the

relationship between prior learning and its use in everyday life is accounted for by the failure of teachers to make such relationships apparent. A 'process approach' in teaching, which focusses upon the different skills used in carrying out a task and which provides frequent opportunities for the young person to reflect upon what they have done and learned, can help the relationship to be seen. What must not be overlooked, however, is whilst a process approach places an emphasis on continuous development, the mere acquisition of skills does not of itself ensure the ability to transfer them; knowledge, perception, attitude, feelings and personality may also all effect transfer.

6.5 USE OF SKILL LIBRARIES. A contextually based curriculum, providing relevant experience, is essential for large numbers of young people for whom initial vocational preparation is now being accepted as an alternative to work on leaving school. Some of these young people will have no job aspirations, others unrealistic ones. The identification of the actual skills demanded by different occupational areas enables young people to more easily identify what demands a job may make and how their own competencies match up or may need to be developed. The availability of 'skill libraries' cross referenced by skill and job title will enable young people to not only familiarise themselves with occupational demands but also to identify alternative occupations in which the skills they possess, or the interests they have, are deployed. It is common knowledge that young people are generally most motivated when they are provided with learning experiences related to their perceived futures - no matter how uncertain or unlikely that future may be.

6.6 THE INVOLVEMENT OF OUTSIDE AGENCIES. In vocational preparation programmes, possibly more than most other programmes, the contribution of outside agencies is vital. In a basic skills approach employers contribute to the curriculum development through the profiling of the skills used by their workers. More significant however, is the additional information which is collected about the manner in which skills are learned and then subsequently deployed. The development of 'contextual' learning is greatly aided by such information, as is the preparation of young people for a period of work experience. The benefits in this latter case are two-fold for competent performance in a work experience

placement may result in the offer of a job whilst unsatisfactory preparation may result in an inability to cope and the highly damaging negative experience of having to leave the placement. For the Careers Service the advantages of detailed job knowledge are obvious and important. The selection procedures of many companies are still strongly tied to academic attainment even though the work in question may call for minimal use of it: sometimes employers may even rely on subsequent training to combat the weaknesses in their selection procedures. Detailed analysis of the skills required in a particular job could aid the development of selection procedures and a widening of recruitment to include less qualified but equally suited applicants.

6.7 POSSIBLE IMPLICATIONS OF THE USE OF THE RESEARCH DATA FOR STAFF DEVELOPMENT - USING AND COLLECTING DATA. For the full potential value of this research to be realised teachers will require in-service training which will enable them to understand how to interpret and use the findings. This does not simply mean the provision of a descriptive outline but the providing of workshops for teachers to actually work the data, and consider its implications for their own teaching; ideally, they should be provided with the opportunity to use the inventories or checklists to collect their own data. With most colleges or schools today having computing facilities, programmes could be written which would enable the data collected to be fully exploited and data banks built up of local labour market characteristics. The actual collecting of data by teachers could have double value for, not only would it enable information about the skills required by local employers to be identified but it would facilitate personal awareness of the working environments, production processes and services contained within the local community. Unless teachers are able to have direct access to the research instrument in this way and can discover for themselves its actual value, it will continue to be viewed sceptically and its findings treated with suspicion.

7. Conclusions

7.1 The main theme of this paper, and the assumption of the research it has reviewed is the paramount need for young people to acquire a range of basic skills. What

is being recommended is an approach aimed at helping individuals to be more versatile and adaptive to the whole range of changing circumstances and demands.

7.2 If unemployment or under-employment is to become a feature of Britain in the 1980s and 1990s it is essential that continuing education, based on a progressing learning structure, is available for young people and adults alike. If on the other hand 'full' employment does return it is likely that the needs of industry will have changed considerably as will processes and methods of production and that this will mean that education and training curricula will need to be even more broad based and generic to enable workers to cope with an ever changing technology.

7.3 The implication for Further Education of this new approach must not be overlooked. At the present time there is comfort in the fact that the research findings have not provided too much evidence of any damaging omissions in terms of employment needs from the courses that are being provided for this target group. This, however, is not to say that we cannot learn from them or that we should become complacent about what is currently being provided. The Further Education sector has always been proud of its relationships with employers and other outside agencies. The basic skills approach now being advocated can further strengthen this relationship to the benefit of all concerned. The labour market has never been a static place, but today it is changing rapidly; if Further Education is not to be found wanting it must be able to monitor and respond to these changes and, to do this, it requires an appropriate instrument. The research into the possibility of identifying, describing and grouping skills appears to be providing such an instrument - it certainly warrants further exploration of the common ground that now exists.

8. Research Instruments and Terminology

8.1 A detailed account of the various projects carried out in America and Canada is provided in the MSC report DTP 5 (Freshwater and Townsend, 1977). The report provided an overview of the approaches taken in those two countries to the developing of 'descriptors'.

and their use in 'inventories' together with detailed descriptions of the work of 13 research projects including those in the UK.

DEVELOPING DESCRIPTORS

8.2 The term 'descriptor' is given to a statement or work which describes the skill, task or duty which is associated with a specific job. The nature and the detail of the information included in a descriptor is determined by the problem to be solved. For example, Arthur de W Smith in his research on behalf of the Canadian Government, generated descriptors which are specifically designed to "describe the behaviours which are fundamental to the performance of many tasks carried out in a wide range of occupations". These descriptors Smith calls 'Generic Skills'. As an alternative, JC Flanagan researching for the America Institute for Research, adopted a 'task' approach to obtain his descriptors. The technique pioneered by Flanagan - 'the critical incident technique' - involves the recording, by carefully trained observers, of behaviours or incidents that will have a significant effect on the satisfactory or unsatisfactory performance of a task. The main outcome of this research being the development of specific 'critical incident' descriptors for use in specified studies.

8.3 The authors of the MSC report (DTP 5) point out that most researchers, when generating descriptors, try to use a definite format. The format depending to some extent on the purpose for which the descriptors are being generated, ie the type of information which is to be included in each descriptor and the degree of detail. In the majority of cases it has been found better not to include technical or ambiguous words in their writing to ensure that the descriptor is fully understood by people other than the devisors. In some cases examples and illustrations may be included to improve clarity.

8.4 With most research concerned with problems in the manpower area it is, in general, the action of the worker which is focussed upon, rather than a description of the task, in the development of descriptors. In other words, as the MSC report states, "a worker-oriented language is needed rather than a work-oriented one" (para 2.16). In some simple tasks, however, where very familiar terminology is used, a tool or equipment

oriented verb may be used; for example 'MOPS' would probably be used as the standard rather than 'PUSHES AND PULLS MOP'. Examples of descriptors generated by Smith are:- multiplying whole numbers, reading to determine job requirements, using hand-eye co-ordination.

8.5 The main advantage of developing descriptors through focussing upon the actions of the worker is that the common abilities which may be required by a range of jobs - possibly in very different and unrelated occupations - may be revealed enabling both occupations and skills to be clustered and training provided which would equip people to be able to cope with a wide range of occupational situations.

8.6 The development of more general descriptors, ie descriptors which focus upon the abilities required in a whole range of jobs, requires a language to be used which is capable of accommodating the large range of jobs under investigation; this tends to result in most abstract, generalised categories. In addition, they are also likely to describe both cognitive and manipulative performance.

8.7 Of particular interest, in terms of more general descriptors, is the work of EA Fleishman who has developed the Abilities Reference Manual (ARM). ARM aims at producing a 'taxonomy of human performance' through the description, contrast and comparison - in terms of abilities - of the requirements which specific tasks demand of a worker. Tasks requiring similar abilities would be placed within the same category, or would be said to be similar. Fleishman has carried out an extensive series of interlocking studies especially designed to identify the organisation of the abilities found within a task. The results of several hundred wide ranging and different tasks were examined by means of factor analytical techniques in order to establish the inter-correlations. Through his work Fleishman has been able to show that human performance can be accounted for by a relatively small number of abilities. Examples of Ability Concepts found in ARM are; - mathematical reasoning, number facility, deductive reasoning, inductive reasoning, informal ordering etc.

8.8 Most of the other studies, however, which take a general perspective, for example McCormick's Position

Analysis Questionnaire (PAQ), embraces a wide range of jobs, a broad spectrum of workers and, in general terms, the difference in jobs and workers need to be correlated across the population of each. For this reason, as Banks et al (SAPU Memo No 301) point out, studies which include such diverse work as coal mining and selling hats must include components which are both 'work' and 'worker-oriented'. "It is unrealistic to strive to exclude one type of information in order to generate a pure measure of the other".

8.9 In practice most general approaches to job analysis use a hybrid instrument that will collect information about both the work and the worker. The distinction between the two being more suitably retained for localised investigations. A similar conclusion, according to Banks et al, may be drawn about research aimed at producing descriptions of the skills required in either an individual or a whole range of jobs. With this research, however, there is an additional problem, namely, the variety of meanings attached to the term 'skill' and the level of specificity required before the term should be used.

8.10 For the teacher the descriptor equates to a rather imprecisely stated behavioural objective eg add whole numbers, read or write Roman numerals, join together by glueing. The need to perform these activities in over 50% of the jobs analysed would probably earn that activity a place in a list of basic skills related to those jobs. Teachers may need to consider whether the activities in a list produced by the research in this way were reflected in schemes of vocational preparation for young people that they might be offering, and if not, whether they need to be included.

8.11 INVENTORIES are lists of descriptors, usually grouped under broad headings eg Listening and Talking, Physical and Perceptual Skills, Practical Skills, etc. Inventories of descriptors are often compiled in questionnaire format to enable rapid and consistent collection of the data and to involve the person being interviewed in making no more than simple responses to specific questions; it also avoids the need for him/her to actually have to recall what they do, or find words to express themselves. When compiled in this way the descriptor is likely to be prefixed by such a phrase as "How often does the work call for...?"

8.12 CHECKLISTS as the name implies, are a list of items in this case descriptors - which can be used as a reference to ensure, for example, that certain learning experiences are not being omitted; to check on the progress made by young people; as an aid to learning autonomy by indicating competencies which need to be acquired; as a diagnostic tool. Checklists are already widely used by teachers and are often the best way of ensuring that important items are not overlooked. The FEU in its publication Vocational Preparation presents a checklist of common core objectives (reproduced in Appendix 3 of this document). A checklist of those basic skill descriptors used in a broad range of occupations may be of value to confirm or extend the list of common core objectives presented by the FEU.

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IMS Report no 42

Skills Needed for Young People's Jobs Volume IV

Planning and Monitoring The Skills Survey - A Step-by-

Step Guide

Skills Needed for Young People's Jobs Volume V

Record of Jobs included in the Skills Data Base.

Institute of Manpower Studies

Appendix 3

A Common Core of Skills for Vocational Preparation

An appendix to 'A Basis for Choice' gives a series of aims and objectives which it is suggested might be the core of studies on a vocational preparation course. It was not suggested that this checklist was in any way prescriptive; indeed its dynamic nature has always been stressed, as has its responsiveness to local conditions.

There have already been suggestions that the checklist should be modified to include, for instance, computer familiarisation, and what follows is an amended version of the checklist.

The prescribed objectives are described in terms of a combination of observable performances to be expected of students and learning experiences which they should be offered. The commentary in italics following each objective is not prescriptive, but offers illustrations, examples and suggested methods.

For convenience, the objectives are grouped under the headings of the core aims. Some referencing has been used to indicate where an objective/experience is not intended to represent, necessarily, the order or organisation of the learning. Neither does the number of objectives in any group necessarily represent weighting. Some difficult time-consuming and important activities may be stated quite briefly.

- Part of Induction Phase
- ★ a new item

Aim 1

To bring about an informed perspective as to the role and status of a young person in an adult society and the world of work.

The students should

- 1.1 Describe a typical organisational structure of at least 2 different types of workplace or organisation, and relate this structure to their respective functions
This should include:
identification of component functions (eg: sales, store-keeping, production, maintenance, professional services, administration, book-keeping)
and who performs them (eg: a department v one man as

part of his job)
distinguishing between large and small-scale organisations, and productive and service industries (eg: garage and clothing factory)

- 1.2 Visit a place of work, relevant to their interests, and describe
 - a. the working conditions and tasks of new entrants
 - b. the range of decisions which can legitimately be made by these young workers
 - c. to whom they are responsible
 - d. with whom they have regular working relationships
 - e. training and career prospects: entry requirements*The information should, preferably, be gained by interviewing young workers, perhaps using a tape recorder or questionnaires (ref. Aims 2.3 and 6.3.2)*

- 1.3 Interview at least two adult workers about their entry to working life and the factors which influenced their subsequent job progress
eg: relatives, friends or workers in jobs of interest
(This may best be done in pairs of strangers are to be interviewed)

- 1.4 Make comparison of different working situations, using the information gained by themselves and others
Students might compare notes in discussion, with regard to both similar and different jobs. Note should be taken of any variations in perception or experience due to differences in the cultural background of those interviewed. There may be a need for tutors to compensate here for lack of information due to inadequate interviewing skills.

- 1.5 Describe the relevant trade union organisations within a particular firm or organisation, and their method of operation: identify and discuss any differences between the systems observed, and the significance and functions of trade unions in general
Students should be able to use correctly such terms as: differentials, collective bargaining, closed shop, shop steward

- 1.6 Describe the basic management structure within a particular firm or organisation; identify the channels of communication to and from the young workers, and the area of responsibility of their immediate supervisors
eg: whom to see about a day off, faulty equipment, pay

queries. Who has the authority to give instructions and about what?

1.7 Use the knowledge and insights gained as a basis for analysing factors influencing job choice, job satisfaction and relative rewards

eg: (factors influencing rates of pay) skill, unionisation, social status, difficult conditions, age, qualifications

eg: (factors influencing job satisfaction) responsibility, prospects, social environment, usefulness, wage levels
A suitable method might be for students to rank a list of jobs according to a selection of factors, and then to discuss the differences between their own judgements and the actual position as reflected in wage rates, etc.

Many of these objectives may be achieved simultaneously with some of those in 9.2 (politics), 9.12 (economics), 10.4, 10.5 (technology), 2 (career choice) and 6.3 (communication skills).

Aim 2

To provide a basis from which a young person can make an informed and realistic decision with respect to his or her immediate future.

The students should

● 2.1 Participate in the construction of self-profiles, which analyse and evaluate their own characteristics, preferences and capabilities

eg: ability to relate to colleagues or strangers, physical fitness, willingness to travel, reaction to routine, aptitude for calculation, any sensory or physical disabilities (ref. 3.1)

● 2.2 Present their self-profiles to colleagues and compare them with those of the rest of the group including:

checking self-image against the perception of others; comparing the reactions of others to similar factors. This may enable the teacher to establish a group identity, and the students to gain practice at relating to others in a group (ref. 6.3.15)

● 2.3 Obtain, by a variety of means, information on the characteristics of the range of job opportunities available to them and how to gain access to these opportunities

eg: (characteristics) entry qualifications, working conditions, training, prospects, job location

eg: (methods) consulting reference books, interviewing people, visiting job centres, listening to local radio, consulting careers officers (ref. 6.3.4 and 6.3.5)

● 2.4 Relate this information to their own profiles, and discuss the alternatives open to them

Use could be made of the careers service here, and attention paid to changes in the students profiles during and since their time in school. Care may be needed to avoid sex-stereotyping.

2.5 Recognise the risk of future unemployment, understand its causes, and know the steps they can take to mitigate its effects on them personally (including knowledge of government schemes, voluntary opportunities, entitlement to benefit, the possible advantages of mobility and the possibilities of self employment)

eg: (causes and risks) decline of industries, and regional variations in job opportunities;

technological developments (ref. 10.5, 10.4)

eg: (schemes and opportunities) YOP and FE courses; useful unpaid work (CSV, local hospitals and community projects); social security regulations; the possibilities and difficulties of moving to another area; the possibilities of co-operatives and the knowledge and skills necessary to advertise and sell one's own labour, or to set up one's own business (ref. 9.10, 8.2)

2.6 Experience at least three different types of task, and evaluate their responses to them

eg: a heavy physical task (mixing concrete), manipulative task (assembly work), clerical task (filing). They should preferably come from more than one sector of employment. This job sampling may well be conducted in conjunction with the activities required under Aim 3.

Aim 3

To bring about continuing development of physical and manipulative skills in both vocational and leisure contexts, and an appreciation of those skills in others.

Work in connection with objectives 3.1-3.4 in particular, will form part of the Induction Phase but all the

objectives in this section should be worked towards throughout the year and also in the course of vocational and job specific studies.

The students should

- 3.1 Develop an awareness of their physical and manipulative abilities through experience of both vocational and leisure activities, and understand the implications of these for future job choices

This is a general objective to which much of the practical activity in the course should contribute. It should also influence the self profiles (ref. 2.1, 2.2). The leisure activities should include a choice of group and individual activities designed to satisfy a variety of student preferences (team games, gymnasium activities, dancing, pottery, etc.)

- 3.2 Experience the physical demands of some occupations, assessing (a) their reactions to physical conditions and (b) their ability to learn to cope with them
eg: guided experience of being out of doors, standing, lifting and carrying (in the course of workshop activity, as an approach to physical education, etc.)

- ★ ● 3.3 Experience the manipulative demands of some occupations, assessing their reactions to these demands, and their ability to learn to cope with them
eg: handling/constructing laboratory apparatus; making small-scale constructions, working accurately, and at speed; using a keyboard.

- 3.4 Experience the effect of working for an extended period of time between breaks, and the demands made on their concentration and physical stamina
work-place sessions as opposed to school periods

- 3.5 Perform tasks to a set standard and in a given time, working co-operatively when appropriate
including the appreciation of
- *the difference between the application of set standards at work, and the 'grading' of tasks by teachers in schools*
 - *the need to 'pace' one's effort*
 - *the need to protect the safety of colleagues*

- 3.6 Understand the properties and uses of a range of materials, and practice using a variety of tools and processes appropriate to these materials

eg: wood, paper, metal; cutting, joining, assembling, copying; appropriate safety procedures - all in the context of vocational and creative leisure activities (ref. 10.4)

- 3.7 Work on tasks where measuring and estimating of materials and time are required, to ensure accuracy and precision

eg: typing, picture-framing, wallpapering

- 3.8 Work on tasks where aesthetic judgements of shape and colour are required

eg: choosing materials or designing for appearance as well as strength; painting for appearance as well as protection

- 3.9 Observe a skilled practitioner at work, in an area of their choice, and appraise the judgement and skills involved

eg: (areas) typing a letter; panel beating; connecting a tap; bathing a child; plastering; 'throwing' a pot. Social and aesthetic judgements may also be involved, as may the ability to plan (ref. 8.2). The appraisal is probably best developed through group discussion.

- ★ 3.10 Be introduced to examples of complex equipment, in order to develop confidence in its use in the future
eg: machine tools, electronic equipment, microcomputers

Aim 4

To bring about an ability to develop satisfactory personal relationships with others.

The students should

- 4.1 Experience, directly and vicariously, a variety of personal encounters and a range of responses in them
eg: (encounters) receiving instructions; being asked for help, receiving a complaint - in direct experience (such as those involved in 1.2 and 1.3), role-play, film or literature

eg: (responses) aggression; sympathy, evasion

- 4.2 Describe several patterns of behaviour, and analyse

the interaction in terms of the roles of those involved
eg: (patterns) use of authority or status; effect of aggression or appeasement; use of reason or emotional pressure

eg: (roles) parent and child; supervisor and worker; student and teacher

4.3 Identify and practice alternative responses

eg: being aggressive, conciliatory, submissive, understanding, distant - probably in role-play - (possibilities of video)

4.4 Consider the merits of these responses in various situations, and with regard to various types of encounter

eg: dealing with authority, the family, the peer group, individuals of the opposite sex (probably through group discussion) (ref. 5.5)

4.5 Predict the changes in role likely to occur for them in the near future

eg: student to wage earner, child to parent

4.6 Be aware of contemporary social conventions in various contexts likely to be met, and be able to adopt behaviour appropriate to their own goals

eg: at work, eating out, in a library; self-presentation at interview; attitudes to those in authority; language and behaviour whilst in contact with the public (ref. 5.4)

4.7 Describe some of the categories by which they classify other people, and become aware of the indicators they and others use to allocate individuals to a category

*eg: (categories) old/young; friendly/unfriendly; kind/unkind; social classes, cultural groups, sexes
eg: (indicators) dress; accent; non-verbal behaviour*

Aim 5

To provide a basis on which the young person acquires a set of moral values applicable to issues in contemporary society.

With reference to

- their present situation
- a predictable future working situation
- some wider current issues

The students should

5.1 Be prepared for common moral dilemmas

eg: individual v group loyalty, what constitutes 'stealing' at work, quality of workmanship, tax evasion, 'a fair day's work for a fair day's pay', sexual or racial discrimination

5.2 Give reasons for certain moral 'rules' and decisions

eg: keeping promises, returning lost property, being faithful

5.3 Apply relevant moral terms to specific situations

eg: integrity, corruption, cheating, fairness, in contexts such as sport, examinations, strikes 'perks' at work

5.4 Describe the prevailing moral code of given groups

eg: cultures, ages, social groups, occupations (eg: soldiers, doctors, sexes)

5.5 Formulate their own codes of behaviour in relation to certain issues and dilemmas, coping with clashes of principles

eg: honesty versus loyalty, in relation to issues such as those described above

5.6 Describe and analyse the moral consequences of actions

eg: driving without insurance, the conception of a child; concealing information at interview (ref. 9.1.4 also)

It is anticipated that many of these objectives (especially perhaps 5.1, 5.3 and 5.6) might be dealt with in the course of such things as practical sessions, or discussions about economic issues or work experience.

Aim 6

To bring about a level of achievement in literacy, numeracy and graphicacy appropriate to ability, and adequate to meet the basic demands of contemporary society

6.1 **Numeracy** The student should be able to

6.1.1 Add, subtract, multiply and divide whole numbers, basic fractions and basic decimals

6.1.2 Given an awareness of their own abilities and future needs, decide when to use calculators, tables,

pencil and paper or mental arithmetic, and be prepared to learn any required techniques

What does their intended job require (a) of necessity, (b) for convenience?

What are their personal needs?

6.1.3 Interpret place value

6.1.4 Convert fractions to decimals and vice-versa

6.1.5 Use standard units of measurement, read graduated scales, and make approximate conversions between imperial and metric units

eg: through the interpretation of plans and preparation of materials in the course of a project

6.1.6 Read the 24-hour clock, and train/bus timetables. Make estimations of time

eg: planning journeys (ref. 8.2)

6.1.7 Interpret and use tables of figures

eg: bank statement, temperature conversion, football results

6.1.8 Make approximations and estimations, and assess the accuracy of results obtained by a calculator

6.1.9 Apply and interpret ratio and proportion

eg: preparing mixtures, scale on maps, wage increases

6.1.10 Calculate averages

eg: average wage rates

6.1.11 Calculate percentages

eg. VAT, discounts, tax rates

6.1.12 Make elementary algebraic substitutions

eg. using a formula to determine one unknown

6.1.13 Describe the properties of common shapes, and measure angles

6.2 Graphicacy

6.2.1 Make calculations and estimations of perimeter, area and volume or right-angled figures, circles and cylinders

eg. estimating quantities of materials

6.2.2 Interpret and present graphs, charts and maps, choosing an appropriate form for their purpose

eg. understanding of gradient of axes; pi-charts, bar-charts, etc. in the contexts of newspapers, textbooks, student projects (ref. 10.1)

6.2.3 Appreciate perspective in space, photography, etc.

6.3 Communication

The student should

6.3.1 Read and understand data in a wide variety of forms and identify the points of a given text relevant to a particular purpose

eg. instruction manuals, notices, letters, labels (see also

6.1 and the rest of 6.2)

eg. read a manual in order to know action to take in case of a breakdown

6.3.2 Be able to read and understand written questions and requests

eg. questionnaires, memos, worksheets

6.3.3 Be able to distinguish fact from opinion, identify emotive and ambiguous statements, and

identify instances where expert advice is relevant to a matter of opinion

eg. sales literature (including comparison of products); political speeches (ref. 9.1)

eg. medical opinion on when to return to work (as opposed to an opinion on what is funny)

★ 6.3.4 Find and use information from a variety of given sources, including electronic information sources
eg. dictionaries, catalogues, indexes, encyclopedias, Prestel etc (ref. 9.17)

6.3.5 Listen to, and understand information and requests given orally
(ref. 3.5, 4.1)

6.3.6 Be able to communicate competently in written form; organise content, write effectively and with observation of the conventions of legibility, spelling, punctuation and grammar
eg. formal letters and reports, informal notes and messages

6.3.7 Explain and describe events, processes and opinions sensibly and clearly in writing
eg. accident reports, operating instructions, arguing a case

6.3.8 Make notes for own use

eg. on visits, from books, during talks

6.3.9 Be able to express tabular or graphic data in written form of vice-versa

eg. diagrams, charts, sketch maps, statistics (ref. 6.2, 10.3)

6.3.10 Fill in forms correctly

eg. driving licence applications, job applications, insurance claims

6.3.11 Speak audibly and give clear verbal explanations of processes/opinions/events to a variety of audiences
eg. friends, acquaintances, strangers, etc

6.3.12 Make a disciplined contribution to group discussion

eg. following some procedure; accepting and responding to others' views

- 6.3.13 Use the telephone effectively
- 6.3.14 Experience and practice various kinds of verbal encounter, and evaluate their own strengths and weaknesses
e.g. negotiating, advising, persuading, justifying; using simulations, role-playing, mock-interviews, etc. (ref. 1.3, 4.1)
- 6.3.15 Experience membership of, and practice communication in, a variety of groups
e.g. eg: formal, informal; large, small; decision making, task-centred; competitive and co-operative (ref. 9.2)
- 6.3.16 Experience various roles in these groups
e.g. leader, recorder, participant, chairman
- 6.3.17 Experience the communication requirements of certain jobs and evaluate their reactions to them, and their ability to learn
e.g. with children, in an office; with customers; with VIP's (ref. also 2.1, 2.3)
- 6.3.18 Participate in planning and creating an example of a particular form of communication, matching the form to the purpose
e.g. TV (video) programme; audio tape; newspaper; exhibition
- 6.3.19 Critically appraise examples in a medium of communication with which they have experience
e.g. TV, records, radio, books; identifying style, imagery, the message being transmitted, the audience for whom it is intended, influence of the technology, etc.

Aim 7

To bring about competence in a variety of study skills likely to be demanded of the young person

It is suggested that these study skills should be introduced as a specific group learning activity early in the induction phase, but that subsequent practice should come from following the course itself. This practice should subsequently be reinforced and evaluated on a tutorial basis.

The students should

- 7.1 Learn how to take notes, or use given notes for their own purposes
e.g. when preparing an essay; when hearing a talk. Different strategies are possible

7.2 Know how to gain access to appropriate works of reference

e.g. location of library; use of index

7.3 Appreciate when to 'skim-read' and when to read for detail, and practise both techniques

7.4 Practise discussions and questioning
e.g. with teachers, with colleagues, with experts, co-operative learning

7.5 Gain some appreciation of effective learning strategies and how to deploy them for their own benefit in the planning of their learning
e.g. aids to memory, such as mnemonics; simple psychology of learning, such as knowledge of learning plateaux, attention spans, and methods and effects of practice

7.6 Experience a variety of learning situations and evaluate their reactions to them
e.g. formal talks, group work, programmed learning, individual study with text books, using a library, role-plays and simulations; identifying which methods suit them best, for a given purpose
(These situations will normally occur naturally in the rest of the course; a separate session may be required only to evaluate them.)

Aim 8

To encourage the capacity to approach various kinds of problems methodically and effectively, and to plan and evaluate courses of action

The students should

- 8.1 Examine and appraise given faults, problems or events, working individually in or a group.
e.g. faulty equipment, college over-crowding, a fall in sales, lung cancer by
- 8.1.1 Thinking up alternative solutions or explanations
e.g. 'brainstorming' sessions in groups; listing alternatives without evaluation ('lateral' or 'divergent' thinking)
- 8.1.2 Identifying what evidence would support a statement or a guess and what would cast doubt on it.
e.g. logical deduction of consequences, probably

implications

8.1.3 Considering or eliminating alternatives, in a systematic way

e.g. the need to hold some variables constant or have a 'control'; taking into account previous experience; the probability of certain causes; distinguishing between cause and correlation

8.1.4 Generalising as appropriate from previous experiences or data

including discussion of the degree of confidence which is justified, the effects of further evidence, etc.

Special sessions in problem-tackling or scientific method may appeal to some students. Others will respond better if these objectives are dealt with in the natural course of activities and discussion occurring in the rest of the course. In the latter case, students should still be made aware of what constitutes a scientific approach, and in either case, experience should be given of problems which do not have one clear solution, as well as those which do.

8.2 Experience the process of planning an event or course of action, working individually and in groups

e.g. a journey by public transport, a visit to a factory, making an object, applying for a job, buying a vehicle by

8.2.1 Identifying the nature of a problem, and collecting relevant information

factors involved; factual data available; sources of expert advice

8.2.2 Working out alternative strategies and predicting their likely outcomes

as a pencil and paper exercise; as a topic for group discussion

8.2.3 Choosing and implementing a plan, and adapting it to circumstances as appropriate

8.2.4 Evaluating the effectiveness of the plan, and identifying lessons to be learned

student performance should be judged with regard to this, rather than success or otherwise of the plan

★ 8.2.5 Develop the capacity to learn with computer assisted methods, using appropriate equipment

Aim 9

To bring about sufficient political and economic literacy to understand the social environment and participate in it

Section 9.1 describes a procedure by which the political dimension of issues which arise during the course can be analysed. It is not intended that these objectives should be learned in isolation. The issues that may arise among the students, or through an account in a case-study, the press, TV, etc.

The students should

9.1 Appraise a policy dispute by

9.1.1 identifying the cause of disagreement

e.g. goals, values, methods (especially if allocating resources), results (ref. 9.11)

9.1.2 saying what further information they need, and where it can be found

(ref. 6.3.4)

9.1.3 identifying where and by whom any decision will be made

e.g. in a local authority, by the housing committee; in the college, by the Academic Board

9.1.4 indicating who is likely to be affected by various policies and in what way

identify likely supporters/opponents (ref. 5.6)

9.1.5 Describing alternative ways of influencing the decision, and evaluating their relative merits

e.g. by forming pressure groups, writing letters, visiting, organising petitions, writing to newspapers; evaluating through discussion (ref. 8.2)

9.1.6 describing the issue using some basic political terms

e.g. conflict, power, consent-dissent, order-disorder, rules, compromise, consensus

9.2 Analyse and appraise some groups to which they belong, and describe the methods by which decisions are reached in them

e.g. family, youth-club, class, student union; formal and informal groups

9.3 Develop an awareness of the workings of formal decision-making groups by

ie: groups which have rules of procedure

9.3.1 experiencing membership of such a group

e.g. class meetings, or in role-play simulation

9.3.2 experiencing/discussing different systems of voting

e.g. for nationwide referenda, general elections, class representative, goal of the month

9.3.3 listing the conventional order of items on an agenda, and explaining their meaning and usage

e.g. minutes, standing items, AOB

9.3.4 visiting and observing a public decision-making body in action

e.g. local council, college, Academic Board

9.4 Gain a basis for evaluating national politics by being able to

9.4.1 Name the major political parties, their leaders, and describe major and/or distinctive items of policy

e.g. analysis of statements, actions, manifestos (ref 6.3.3); critical evaluation of media reports

9.4.2 Describe, in general terms, how local and central government relate, and the role of the EEC

e.g. probably approached through case study of a given issue

9.4.3 Indicate which Departments of Government are responsible for decisions which may affect the students personally

e.g. fundings of the college, repair of roads, law on speed limits

9.5 Check and explain a payslip

e.g. deductions, tax-coding

9.6 Balance income against expenditure and keep necessary records

9.7 Make value-for-money calculations and estimations

When shopping; various sizes of product, special offers in shops (ref. 6.1)

9.8 Plan an estimated personal budget for a typical working week in their intended jobs

travel costs, meals, entertainment, accommodation, etc. (ref. 11.5)

9.9 Describe the function and use of a bank account, the Giro, building society, HP and credit cards

comparative interest rates; conditions of use; etc.

It is recommended that the achievement of the following objective be promoted through the use of a simulation or business game, which enables students to discover the various factors involved from experience or as a result of their own investigation (ref. 8.2). Presentation of the material in the form of a series of lectures, or a

conventional text book, would not be appropriate.

9.10 Investigate how a business is run by identifying the factors involved in

i. deciding what to sell

e.g. market research effect of competition, design of product

ii. choosing location

e.g. availability of labour, raw materials, transport, location of customers and competitors

iii. borrowing money

e.g. banks, shareholders

iv. employing people

e.g. wages, national insurance, legislation

v. buying raw materials

examples from manufacturing and service industry

vi. calculating overheads

e.g. rent, rates, advertising, office staff, maintenance, etc.

vii. selling product

e.g. functions of sales staff, customer relations; determining prices

viii. calculating profit/loss

e.g. simple accounting

xi. what happens to profit/loss

e.g. interest payments, taxation, reinvestment, dividends

9.11 Discuss the factors influencing the variable price of certain items, and arguments for and against state intervention

e.g. houses, fresh fruit, fuel

9.12 Explain a selection of firms or organisations in basic economic terms

capitalist, co-operative, nationalised enterprises

9.13 Investigate the sources of central and local government income, and where it is spent

case studies, use of reference texts, interpretation of tables and graphs

9.14 Read some common legal documents and be able to answer simple comprehension questions on them

e.g. guarantees, HP contracts, rental agreements

9.15 Visit a court of law, and discuss its procedures, personnel and atmosphere

9.16 Demonstrate knowledge of their rights with

respect to arrest and bail, by role-playing typical incidents and evaluating alternative courses of action
eg: an incident involving the police (a) when the individual has broken the law and (b) when the individual is in the right

e.g. discussion of principle v expediency, rights and duties; discussion with the police representatives

9.17 Use a simple reference text to determine their rights /duties in specific cases relating to the laws as it affects the consumer, the motorist, the employee
e.g. NCCL guide, Department of Employment publication (ref. 6.3.4)

9.18 Distinguish between criminal and civil law, know the usual order of proceedings through the courts, and compare the function of tribunals
perhaps via case-studies

9.19 Be aware of sources of legal aid and advice

Aim 10

An appreciation of the physical and technological environments and the relationship between these and the needs of man in general, and working life in particular

The students should

10.1 Participate in a group conducted survey of local amenities, which identifies some characteristics of the locality
e.g. surveys of leisure facilities, open or unused spaces, distribution of shops or industry

10.2 Visit a social welfare centre as a basis for discussing personal and community responsibility for others
e.g. old folk's homes, centres for the handicapped, day centres (ref. 4.1, 4.6)

10.3 Identify and assess the nature of environmental problems, through such issues as housing and transport
e.g. (a) use local photographs, sketches and taped interviews to argue for and against various forms of housing and (b) undertake a costing exercise of daily

travel to support cases for and against private and public transport schemes (ref. 8.2) referring to the notions of continuity, change, cause, effect, etc. as appropriate (ref. 8.1.4)

10.4 Examine at least two different industries or places of work, identifying

eg: a production and a service industry

i. the enterprises, their use and dependence on energy
eg: what fuels are used, and for what, the ecological and environmental implication of their use

ii. the production methods and materials which are used

eg: mass production, batch production, unit production; the processes which are mechanised and how this compares with the recent past and predictable future (ref. 1.3); the effect of this of changes in materials)

iii. the division of labour and the nature of individual jobs

eg: the effect of fully automatic, semi-automatic or manual control on the nature of jobs;

the effect of the use of power, production methods and materials on working conditions, skills required, etc. (ref. 1.2)

10.4 Appraise the implications of some current developments in technology

eg: as observed in the above industries or as currently highlighted in the news. Discussion of economic, social, environmental and psychological implications (eg: capital investment required, scale/location of industry, effect on employment and ownership, pollution, power requirements, changes in status of jobs, etc.)

Aim 11

To bring about a development of the coping skills necessary to promote self sufficiency in the young people

The students should

11.1 Be able to plan and prepare adequate meals including budgeting, shopping and costing.

11.2 Use and maintain every-day machinery and

equipment

eg: fit an electric plug, use a launderette, iron a shirt.

Willingness, and confidence, and a knowledge of how to learn these things are intended, rather than comprehensive practice.

11.3 Apply simple principles of health-care, hygiene and physical fitness to their every-day lives
knowledge of the effect of drugs (coffee, aspirin, tobacco, 'hard' drugs, etc.); symptoms, prevention and treatment of common ailments and diseases; access to facilities and activities for developing and maintaining fitness (ref. 3.2)

11.4 Practise simple first-aid techniques dealing with cuts, sprains, burns, etc. Know when to call in expert help.

11.5 Investigate and use sources of information regarding the finding and maintenance of accommodation
eg: use of press, adverts, agencies, rental and purchase, regulations and procedures; do-it-yourself manuals.

Aim 12

To bring about a flexibility of attitude and a willingness to learn, sufficient to manage future changes in technology and career

Introduction

There may be said to be four elements necessary to produce this flexibility:

- a. Possession of commonly used and transferable skills and capacities
- b. Realisation of the need for flexibility
- c. Ability to identify the underlying principles of a process or activity
- d. Experience of and confidence in one's ability to transfer learning from one context to another

It is hoped that many of the transferable capacities – element (a) – are already embodied in the other core objectives.

Element (b) will be encouraged by the economic and technological objectives included under Aims 9 and 10.

The need for (c) is part of the rationale behind the prescription of much experiential learning and

project/case study/simulation activity in the core.

Element (d) entails the following general objectives, which will relate to much of the activity in the course as a whole, affecting the teaching approach as much as the content.

The students should

12.1 Whenever they develop a particular capacity in a given context

eg: measuring up; estimating materials; following an instruction manual; giving instructions; fault finding

12.1.1 Identify other contexts in which the capacity could be useful

eg: similarity between: assembly instructions and recipes; and adjusting bikes or sewing machines

12.1.2 Be given practice at applying relevant aspects of previous learning to a new situation

Having identified a transferable skill, practise transferring and adapting it

12.1.3 Identify any other activities at which they are likely to be successful, on the evidence of this learning
As a contribution to the self-profile (ref. 2.2, 2.4). What do they enjoy doing? What kind of learning comes easily to them?

Appendix 4

Curriculum Components of Vocational Preparation¹

Negotiation

As in any responsive programme of individual development, the curriculum should be a matter of **NEGOTIATION** between the various participants, including the young people themselves. Two mechanisms are proving useful:-

- **Personal PROGRAMME** (or Agenda) which results when a young person makes (with **GUIDANCE**) his/her own selection of the things he/she needs to learn, the way in which they will be learned and the vocational focus for that learning.
- **CONTRACTS** between the agencies which contribute to the different learning experiences within a scheme (eg employers, college, career and youth services); and between the young person (and his/her parents?) and the particular agency to whom he/she is responsible.

The concept of curricular negotiation has three dimensions:

- i. **Management negotiation**: which takes place between the college (say) and other providing agencies who contribute to the total programme; for example the work experience placement, to help create a co-ordinated curriculum;
- ii. **Organisational negotiation**: which takes place between the tutor and/or careers officer and the young person (and parents?), prior to the programme so that the young person joins and receives a programme relevant to his/her needs and to the local situation;
- iii. **Supportive negotiation**: which continuously takes place at the teaching/learning interface between the teacher and the young person(s) in an effort to sustain relevance, progress and motivation.

Counselling, Guidance and Assessment

GUIDANCE and **COUNSELLING** are obviously required to ensure that the motivation mentioned under supportive negotiation above, is sustained, both initially and throughout the learning process. The process of guidance and counselling should be regarded as a central educational function embracing information-giving and presentation of facts to students which they

can relate to their own situation and needs; an advisory function where the student is guided, or an essentially non-directive counselling role. For each individual the needs are unique and demand an optimum blend of information, advice and counselling matched to that individual.

Professional teachers, trainers, mentors etc can appraise a young person's progress and achievement by recording, where possible mutually agreed, assessments of aspects of that progress and achievement. A suitable mechanism for recording this mix of objective, subjective, formative and summative assessments is the **PROFILE**, and we see this not only as a basis for certification but also a device supporting the counselling process.

Acquisition of Basic Skills

A **COMMON-CORE** of essential skills provides a useful checklist against which a young person's previous experience can be matched and in the light of which a possible **PROGRAMME** and **CONTRACTS** can be **NEGOTIATED**. It is the definition of these skills, their place in the programmes of vocational preparation and their potential for progression into more advanced programmes which comprises the main thrust of this document.

Relevance and Experience

For most people, learning is effective if it is seen to be **RELEVANT**. For many young people **RELEVANCE** is related to **EXPERIENCE**, which may be work or other real-life situations. A preferred vocational focus, even if ephemeral or vicarious, often produces the necessary motivation for learning. Any learning process is perhaps best started by relating to the student's previous knowledge and experience and building on those.

¹ *Vocational Preparation* published by FEU in 1981 (SECTION IV and APPENDIX 3 of that document give more details of these components)

Appendix 5

College Assignment

An example of one assignment illustrating the way in which a number of common-core objectives can be approached through one theme, in this case the making of a folding stool. The Appendix relates to paragraph 19.4 in the main text and the common core in Appendix 3.

Vocational Preparation Courses

Carpentry and Joinery Option

Name.....

Assignment: FOLDING STOOL

FOLDING STOOL

The attached drawing shows details of a small folding stool.

Sufficient material will be made available for the construction of the stool, this material will be prepared as a group exercise..

The assignment consists of two parts:

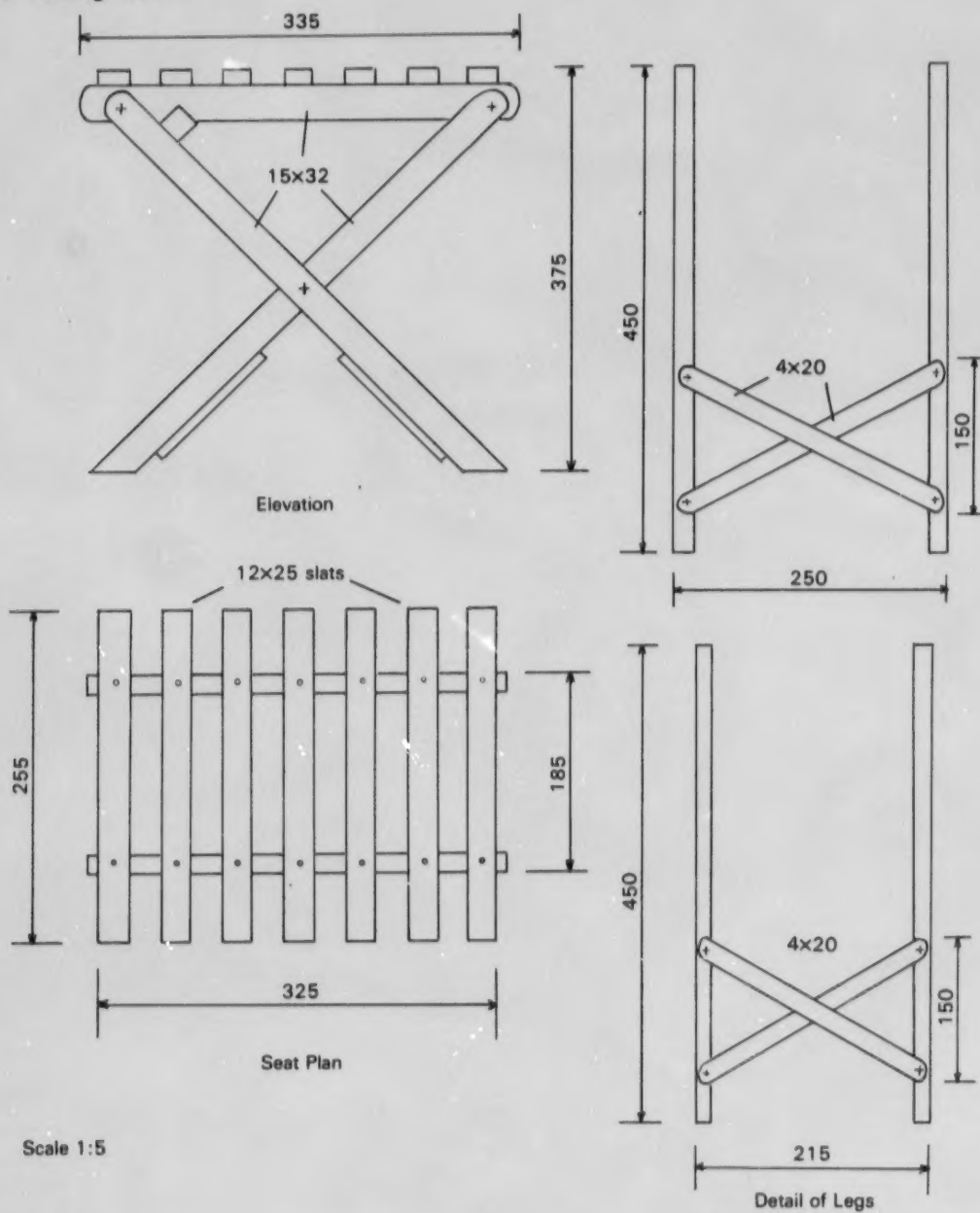
- Part 1. You are required to make the stool from the material given. Keep a record of the time taken for each operation in the workshop.
- Part 2. Answer the questions on the project and related subjects when you feel that you have sufficient information to do so. If you need help with the finding of information or the presentation of information *ask* your tutor.

This assignment covers the following:

Common-Core Objectives

- | | |
|---|-----------------------|
| 1. Handling and preparation of timber. | 3.1 6.2.5 11.2 |
| 2. Setting out and marking methods | 3.6 3.7 |
| 3. Use of tools and equipment | 3.2 3.3 3.4 3.5 6.2.5 |
| 4. Drawing up materials and tool lists | 6.2.9 |
| 5. Descriptions of processes/operations | 6.2.7 |
| 6. Safety in the workshop | 6.2.1 |
| 7. Portable power tools | 6.2.1 |
| 8. Reading/making drawings/sketches | 6.2.1 |
| 9. Reading manufacturers literature | 6.2.1 |
| 10. Making simple calculations | 6.1.5 |
| 11. Measuring and estimating | 3.7 |

Appendix 5 Folding Stool



College of Further Education
Department of Technical Studies
Folding Stool
Assignment Ref. No

Student Question Sheet**Assignment: FOLDING STOOL**

1. During the preparation of the timber for the stool, a number of machines were used. Make a list of the machines used and indicate:-
 - a. the operations that each machine performed;
 - b. the safety devices that were used on each machine;
 - c. arrangements made for effective dust/waste collection.Your tutor will advise on methods of presenting the above information.
2. Part of the stool has to be set up full size.
 - a. What is the reason for this?
 - b. Explain the difference between setting out and marking out.
3.
 - a. Explain by means of brief notes and sketches how two pieces of timber are prepared for screw fixing using countersunk headed screws.
 - b. What factors determine the drill size to be used?
 - c. Find the cost of the screws needed for the slatted seat if 200 screws cost £2.00.
4.
 - a. Make a list of materials required for the stool, then use the given price lists to cost out the materials.
 - b. From your record of time taken and assuming the labour cost to be £3.50 per hour, find the total cost of the stool.
 - c. Are there any other costs which should be taken into consideration?
5.
 - a. List six safety precautions that should be observed in the workshop.
 - b. Look at the Health and Safety at Work booklet and state the obligations that the Act places on a. employers and b. on employees.
6. Some portable power tools are used in the manufacture of the stool. All these power tools are double insulated.
 - a. What is the purpose of this double insulation?
 - b. How would you know whether a tool was double insulated or not?
 - c. Why should regular checks be made on portable power tool equipment?
7.
 - a. What timber was used for the stool?
 - b. Did you find the timber easy/difficult to work?
 - c. Suggest reasons for the ease or difficulty of working.
 - d. What effect did the final finish have on the timber?

The following materials are available.

Manufacturers catalogues/leaflets

Material price lists

Materials information sheets

Health and Safety at Work information

Power tool information sheets

Appendix 6

Young People Starting Work Project – Research Data¹

Contents

Appendix 6a: Skill use in different Occupational Groups

Appendix 6b: List of Jobs Analysed

In paragraphs 30-34 and 46 of the main text we stated some of the implications of the research data for curriculum application; there we were referring to the data from a number of research projects. This Appendix represents some of the data from the Young People Starting Work Project. Full justice can only be given to the Research Project by reading the complete reports.

We believe that the data from this Project when used with the common core (Appendix 3) has implications for curriculum application in two main ways.

- i. the data can be used to help determine curriculum *content* –
to give a *context* (see also figures 1, 2 and 3 Section ONE) and to give *weighting*
to the common-core –
- ii. the skill descriptors listed can be used selectively with the common-core and
occupational skills as criteria for programme validation and to chart an individual's
progression –

Refer to Appendix:
6a, Tables 1-5 & 6b

61, Tables 1-5

6a, Tables 1-5

¹ The Project is being carried out by a research team from the Medical Research Council's Social and Applied Psychology Unit at Sheffield University.

Appendix 6a

Skill use in different Occupational Groups

Key to Tables 1-5

- ★ Very important skills
- Important skills
- Less important skills
- Unimportant skills

Table 1
Physical and Perceptual Skills

Skill Descriptors	Clerical	Selling	Professional	Service	Textiles and Clothing	Skilled Engineering	Construction/Building	Packing and Assembly	Total
Bend stretch or reach	★	★	★	★	★	★	★	★	★
Finger/Hand/Wrist speed	★	★	★	★	★	●	●	★	★
Push pull or carry heavy objects	●	★	★	★	●	★	★	★	★
Manual dexterity	○	●	★	★	★	★	★	★	★
Steady arm or hand	○	○	○	★	★	★	★	○	★
Concentration - distractions	★	●	★	★	★	★	●	★	★
Concentration - repetitive work	★	○	●	●	★	●	●	★	●
Finger dexterity	★	●	●	★	★	★	●	★	●
Arm or leg co-ordination	●	○	○	○	★	●	○	●	●
Good sense of touch	○	○	○	○	●	★	★	●	●
Distinguish shades of colour		●	★	●	★	○	●	●	●
Use strength in short bursts		○	○	○	○	★	●	●	○
Reaction time	●	○	○	○	○	○	○	○	○
Close up work	○	○	○	○	○	★	○	○	○
Compare similar objects	●	●	○	○	○	●	○	●	○
Accurate adjustments to controls		○	●	●	●	★	○		○
Concentrate on more than one thing	○	●	●	★	○	○		○	○
Good sense of balance		○	○	○		○	★	○	○
Visualise final layout or shape		○		●		○	●		○
Good sense of colour		●	○	●	○	○	○	○	○
Distinguish similar sounds						●			
Good sense of smell				○		○	○		
Good sense of taste				○					

Table 2

Mathematical Skills

Skill Descriptors	Clerical	Selling	Professional	Service	Textiles and Clothing	Skilled Engineering	Construction/Building	Packing and Assembly	Total
Use whole numbers	★	★	★	★	★	★	★	★	★
Add or subtract whole numbers	★	★	★	★	●	●	○	●	●
Use of length - imperial	○	●	●		●	★	★	○	●
Measure length - imperial		○	●		○	★	★		○
Estimate	○	●	●	●	○	○	○	○	○
Use decimals	★	★	★	○		○			○
Use fractions	○	○	○			●	●		○
Use of length - metric	○		○		○	★	●	○	○
Read charts	○	○	●	○		●			○
Measure length - metric			○			●	○		○
Add or subtract decimals	●	★	★	○					○
Fill in a time sheet						○	○	○	○
Use weight - imperial		●	○	○			○	○	
Sums with time				○			○	○	
24 hour clock			○		○	○	○	○	
Use percentages	●	●	●						
Multiply and divide whole numbers - simple	●	○	○			○			
Read drawings or maps			○			●	○		
Use speed or rate					○	●			
Use weight - metric	○		●					○	
Calculate percentages	○	○	●						
Use volume - imperial			○	○			○		
Measure weight - imperial		○							
Use volume - metric			○				○		
Multiply or divide simple decimals	○		○						
Add or subtract simple fractions						○			
Take measurements from drawings etc.						○			
Measure weight - metric	○		○						
Use area - imperial							○		
Use screw sizes						○			
Multiply and divide whole numbers - complex	○								
Use whole numbers for time sheet						○	○	○	
Add or subtract whole numbers for time sheet						○			
Any other writing for time sheet						○			
Read circuit diagrams						○			
Measure volume - imperial				○					
Measure volume - metric			○						

Table 3

Communication and Interpersonal Skills

Skill Descriptors	Clerical	Selling	Professional	Service	Textiles and Clothing	Skilled Engineering	Construction/Building	Packing and Assembly	Total
Receive written information	★	●	★	○		●	○	○	●
Advise or help colleagues or workmates	○	○	★	●		★	●	○	●
Complete standard forms or letters	★	●	★	○	○	○	○	●	●
Use codes	★	★	●	○	●	○	○	●	●
Write notes, letters, memos, short reports	★	●	★	★		○	○	○	○
File or sort things	★	●	★	○		○		○	○
Fill in a record book or manual	●		★	●	○	○		○	○
Look up written information	★	●	●	○		○			○
Advise or help customers or clients	○	★	★	●					○
Receive complaints	○	●	○	○					
Negotiate with colleagues or workmates	○	○	○	○					
Use a manual or follow written instructions			○	○		○			
Instruct or train other people		○		○				○	
Use or react to signals			○			○			
Persuade colleagues or workmates									
Negotiate with customers or clients	○	○							
Persuade customers or clients		●	○						
Interview people - simple information									
Interview people - queries									
Interview people - formal									
Give talks									
Units: electricity						●			
Units: pressure						○	○		
Units: angles						●	○		
Units: clothes sizes		○			○			○	
Units: paper sizes	●						○		
Units: temperature				○		○			
Units: other		○							
Estimate: number			○						
Estimate: length size			○	○		○	○		
Estimate: price, costs			○						
Geometry: parallel lines						○	○		
Geometry: right angles						○	●		
Geometry: horizontal & vertical						○	○		

Table 4

Decision Making and Responsibility

Skill Descriptors:

Responsibility for injury or death
 Responsibility for damage to tools and equipment
 Responsibility for lost time
 Deciding about work order
 Deciding about methods or procedures
 Deciding about tools and materials
 Deciding what to do if things go wrong
 Deciding about standards
 Responsibility for things needing special precautions

	Clerical	Selling	Professional	Service	Textiles and Clothing	Skilled Engineering	Construction/Building	Packing and Assembly	Total
Responsibility for injury or death	○	●	●	●	●	★	★	●	●
Responsibility for damage to tools and equipment	○	○	●	○	○	★	●	○	●
Responsibility for lost time	○	○	●	○	○	●	○	○	○
Deciding about work order	●	●	★	○	○	●	○	○	○
Deciding about methods or procedures	○	○	●	○	○	●	○	○	○
Deciding about tools and materials	○	○	●	○	○	●	○	○	○
Deciding what to do if things go wrong	○	○	○	○	○	○	○	○	○
Deciding about standards	○	○	○	○	○	○	○	○	○
Responsibility for things needing special precautions	○	○	●	○	○	○	○	○	○

Table 5

Job Conditions

Skill Descriptors

Work on your feet
 Employer requires a smart appearance
 Work in noise
 Wear a special uniform
 Work in a dirty environment
 Wear protective clothing
 Work out of doors
 Work at heights
 Work in the heat
 Work in the cold
 Work with dangerous chemicals
 Work in confined spaces

	Clerical	Selling	Professional	Service	Textiles and Clothing	Skilled Engineering	Construction/Building	Packing and Assembly	Total
Work on your feet	●	★	★	★	★	★	★	★	★
Employer requires a smart appearance	★	★	★	★	●	★	★	○	●
Work in noise	○	★	●	●	★	★	●	★	●
Wear a special uniform		★	★	★		★	●	●	●
Work in a dirty environment			○		○	★	★	○	●
Wear protective clothing			○	●		★	●	○	○
Work out of doors		○	○			○	★		○
Work at heights			○	●		○	★		○
Work in the heat			○			○	○		○
Work in the cold			○	○		○	●		○
Work with dangerous chemicals			○	○		○	○		○
Work in confined spaces						○	○		

Appendix 6b

List of Jobs Analysed

For the methodology and sampling procedures you are advised to consult the full reports

CLERICAL JOBS (n=78)

CLERICAL WITH FIGURES (n=13)

Invoice clerk	Estimator
Invoice typist	Wages clerk (x2)
Pricing clerk	Cost clerk
Accounts clerk (x2)	Teleclerk
Sales-Estimating clerk	Clerical stock controller
Purchase ledger clerk	

SECRETARIAL/TYPING (n=9)

Computer operator (Accounting)
Secretary/Typist
Typist (x4)
clerk/typist

CLERICAL WITHOUT FIGURES (n=11)

Microfilmer	Clerk typist
Filing clerk	Office clerk
Junior clerk (x2)	Clerk
Clerk typist	Filing records clerk
Assistant librarian	Office Junior

CLERICAL - PUBLIC CONTACT (n=8)

Insurance clerk	Clerk
Bank Cashier	Counter clerk
Betting clerk	Shop assistant
Office junior	Till operator

RECEPTIONIST (n=10)

Switchboard/Receptionist (x3)	Clerk Typist
Receptionist/Typist	Switchboard clerk
Receptionist clerk	Typist/telephonist
	Receptionist
	Clerical administrator

WAREHOUSE CLERKS (n=16)

Dispatch clerk (x2)	Warehouseman (x4)
Junior clerk	Stock room worker
Wardrobe assistant	Warehouse assistant (x5)
"Shop" assistant	Order picker

GENERAL CLERKS (n=11)

Secretary assistant	Clerical assistant (x)
Office junior (x2)	Clerk/typist
Postal clerk	Office worker (x2)
Clerk (x2)	

SELLING JOBS (n=42)

Sales assistant goods (x5)	Sales assistant
clothing (x5)	DIY
department store (x2)	Wholesale
fabrics	warehouse (x2)
audiovisual	carpets
supermarket (x4)	jewelry (x3)
wall-paper	Partsman - spare parts
confectionery	Electrical assistant
grocers (x2)	supermarket porter
shoes (x6)	Checkout operator
chemist	Trainee carpet buyer

PROFESSIONAL (n=12)

PROFESSIONAL - MANAGERIAL (n=5)

Trainee buyer
Trainee shop manager (x4)

PROFESSIONAL - TECHNICAL (n=7)

Trainee pharmacy technician
Laboratory assistant
Dental Nurse (x2)
Apprentice technician
Mining craft apprentice
Laboratory technician

SERVICE (n=36)

FOOD PREPARING AND SERVING (n=17)

Waiter (x2)	Kitchen assistant - hospital
Train steward	Sales assistant - restaurant
Trainee chef - canteen	Waitress
Assistant cook - restaurant	Trainee chef - hotel
Snack bar assistant	Porter - British Rail
Kitchen assistant	Vending assistant/Caterer
Catering Assistant	Counter hand/server
General assistant and waitress	Commis chef - restaurant

PERSONAL SERVICE (n=5)

Nursery assistant	Nanny
Porter	Housemaid
Care assistant	

MISCELLANEOUS (n=86)**TELECOMMUNICATIONS (n=4)**

Postal apprentice
Telex operator
Telephonist
Trainee postman

WINDOW CLEANING (n=2)

Window cleaner (x2)

LAUNDERING, DRY CLEANING (n=8)

Hoffman presser	Seam presser
Presser	Polymarket - laundry
Tailors presser (x3)	Trainee tailor

HORTICULTURE (n=4)

Assistant groundsman
Apprentice gardener (x2)
Gardener

HIDE AND SKIN PROCESSING (n=5)

Leather worker (x2)
Leather worker - machinist
Leather sprayer
Machine operator

FOOD PROCESSING (n=8)

Apprentice butcher (x4)
Butcher
Bakeress
Dairy hand
Bakers assistant

PRINTING AND PHOTOGRAPHY (n=11)

Apprentice camera operator	Apprentice letter press
Printer	machine manager
Apprentice printer	Apprentice printer -screen
Apprentice compositor	Machine printer -apprentice
Photographer's assistant	Screen printer
Darkroom technician	Machine assistant

PAPER WORKING (n=10)

Machine operator	Apprentice printer-finisher
Feeder/table hand	Apprentice paper machinist
Guillotine operator	
Printer's table hand (x5)	

MECHANICAL ENGINEER - NON-APPRENTICE (n=15)

Machine operator (x2)	Apprentice glazier
Fitter	Apprentice service engineer (x2)
Shot blasting engineer	Fitter-trainee
Driller	Saw man
Light engineering, trainee (x2)	Foundry worker
Caster's assistant	Moulder

MINING (n=2)

Trainee miner (x2)

TRANSPORT OCCUPATIONS (n=6)

Drivers mate
Haulage
Drivers assistant
Engine drivers assistant
Assistant milk delivery man
Installation engineer/drivers mate

LABOURING (n=6)

Fork lift truck operator
Machine clearer
Waste reclamation labourer
Fork lift operator
Warehouse labourer
Labourer

OTHER (n=3)

Apprentice jeweller
Jewelry sales/repair
Engraving trainee

HAIRDRESSING (n=14)

Hairdresser (x3)	Junior hairdresser (x2)
Apprentice hairdresser (x8)	Assistant hairdresser

TEXTILES AND CLOTHING (n=48)**TEXTILE MANUFACTURE (n=13)**

Trainee spinner

Mender
Weaver

SEWING MACHINISTS (n=22)
Machinist (x22)

OTHER CLOTHING MANUFACTURE (n=14)

Dressmaker	Tailor's shaper
Trainee cutter (x3)	Cutters improver
Baster	Cutter-tailoring
Turner out (jackets)	Sheepskin cutter
Trainee instructor	Tailoring-trimmer
Dressmaker	Cloth divider

OTHER TEXTILE WORKING (n=9)

Tape machinist	Carpet fitter
Apprentice upholsterer (x3)	Cushion filler
Baste Puller	Material sorter
Trainee floor coverer	

SKILLED ENGINEERING (n=66)

MECHANICAL ENGINEER - APPRENTICE (n=20)

Apprentice engineer (x13)	Apprentice diesel engineer
Apprentice fitter (x2)	Apprentice maintenance fitter
Apprentice plant fitter	
Apprentice tuner	Apprentice precision engineer

ELECTRICAL ENGINEER - APPRENTICE (n=15)

Apprentice electrician (x5)	Apprentice auto electrician
Apprentice electrical engineer (x3)	Electrical household goods repairer
apprentic engineer (x2)	
Apprentice electrical fitter	Assembler
	Labourer - electrical

CAR MECHANIC (n=15)

Apprentice mechanic (x9)	Apprentice motor cycle mechanic (x2)
Apprentice mechanic (x3)	Apprentice Auto fitter

SHEET METAL WORKING (n=16)

Apprentice panel beater (x2)	Trainee scaffolder
	Multi purpose operator
Apprentice plater (x3)	Welding fabricator

Apprentice sheet metal worker (x2)	Apprentice engineer
Welder (x3)	

CONSTRUCTION/BUILDING (n=63)

WOODWORK AND JOINERY (n=19)

Apprentice joiner (x10)	Trainee Carpenter
Trainee cabinet worker (x2)	Picture framer
Apprentice wood machinist (x2)	Joiner
Carpenter (x2)	Trainee chair assembler

PLUMBING (n=11)

Apprentice plumber (x6)	Apprentice fitter (x2)
Apprentice service engineer (x3)	

PAINTING AND DECORATING (n=19)

Painter and decorator (x3)	Painter, decorator and joiner
Apprentice painter and decorator (x3)	Plasterer and decorator
Trainee painter	

OTHER PAINTING OCCUPATIONS (n=8)

French polisher (x2)	Paint sprayer
Apprentice French polisher	Apprentice paint sprayer
Car sprayer	Apprentice sign writer

CONSTRUCTION (n=16)

Roofer	
Trainee roofer (x4)	
Bricklayer	
Trainee bricklayer (x4)	Suspended ceiling fixer
Trainee tiler	Trainee plasterer
	Apprentice glazer
	Roof insulator
	Apprentice

PACKING AND ASSEMBLY (n=10)

REPETITIVE ASSEMBLY (n=10)

Productive operative	Machine operator
Divider	Shoulder padder
Assembler	Printers table hand (x2)
Cabinet assembler	Hand assembler
Electronics assembler	

PACKING (n=14)

Packer (x7)

Printing checker

Van driver's
assistant/packing

Warehouse assistant

Bottle sorter

Leather worker

Tap packer

Packer-loader

Appendix 7

London into Work Development Project – Research Data¹

Contents

Appendix 7a: List of Skill Descriptors

Appendix 7b: Comparison of Job Types with Skill Use

In paragraphs 30-34 and 46 of the main text we stated some of the implications of the research data for curriculum application; there we were referring to the data from a number of research projects. This Appendix represents some of the data from the London Into Work Project. Full justice can only be given to the Research Project by reading the complete reports.

We believe that the data from this Project when used with the common core (Appendix 3) has implications for curriculum application in two main ways.

Refer to Appendix:

- i) the data can be used to help
determine the curriculum *content* – 7a
and also to give a *context*
(see also figures 1, 2 and 3 Section
ONE) and *weighting* to the
common-core – 7a, 7b
- ii) the skill descriptors listed can be used selectively with
the common-core and occupational skills as criteria for
programme validation and to chart an individual's
progression – 7a

1. The research body responsible for the Project is the Institute of Manpower Studies, University of Sussex, Brighton.

Appendix 7a

List of skill descriptors

Skill Descriptor: A skill is listed if it appears in at least 24 per cent of the 968 jobs analysed.

BASIC CALCULATIONS

Read and write numbers
Add whole numbers
Subtract whole numbers
Mental arithmetic - whole numbers
Use calculator/adding machine
Multiply whole numbers
Add decimals
Divide whole numbers
Handle money
Subtract decimals
Mental arithmetic - decimals
Percentages - 1st kind - simple

LISTENING AND TALKING

Converse with one person
Converse with supervisor
Converse with fellow workers
Listen - to follow instructions
Ask questions
Answer questions
Describe/give information
Explain something
Converse with senior to supervisor
Advise others
Converse with patients/clients
Deal with anger/complaints
Give good reason
Converse with work people outside
Tell others what to do
Reply to ideas/information
Converse with public buying goods
Listen at less formal meetings
Talk at less formal meetings
Teach others
Put others at ease
Give summary
Persuade others
Listen to draw conclusions
Recognise bias
Sort facts from opinion
Make judgements
Talk to negotiate

Receive signals
Make comparisons

Reading Skills

Read words
Read to get information
Read messages
Look things up
Read forms
Read to check content
Read letters of alphabet
Read fellow workers
Read supervisor
Take information from charts/tables
Read letters
Read memos
Read - senior to supervisor
Use colour/letter/number codes
Read 'How it works' books
Read - patients/clients

Writing skills

Write words
Write messages
Write to note something said
Fill in forms
Look at/copy down
Write letters of alphabet
Write - fellow workers
Write - supervisor

Manipulative skills

Use 2-way communication system
Fixed setting controls
Hands to pull/push/lift/carry
Keyboard devices
Equipment to clean
Equipment to copy/print/duplicate
Cut with 2 meeting blades
Arrange/pack materials
Feed into machines
Distinguish colours
Cut with 1 blade
Join by sticking
Take from machines
Adjustable controls
Find/set out tools/equipment

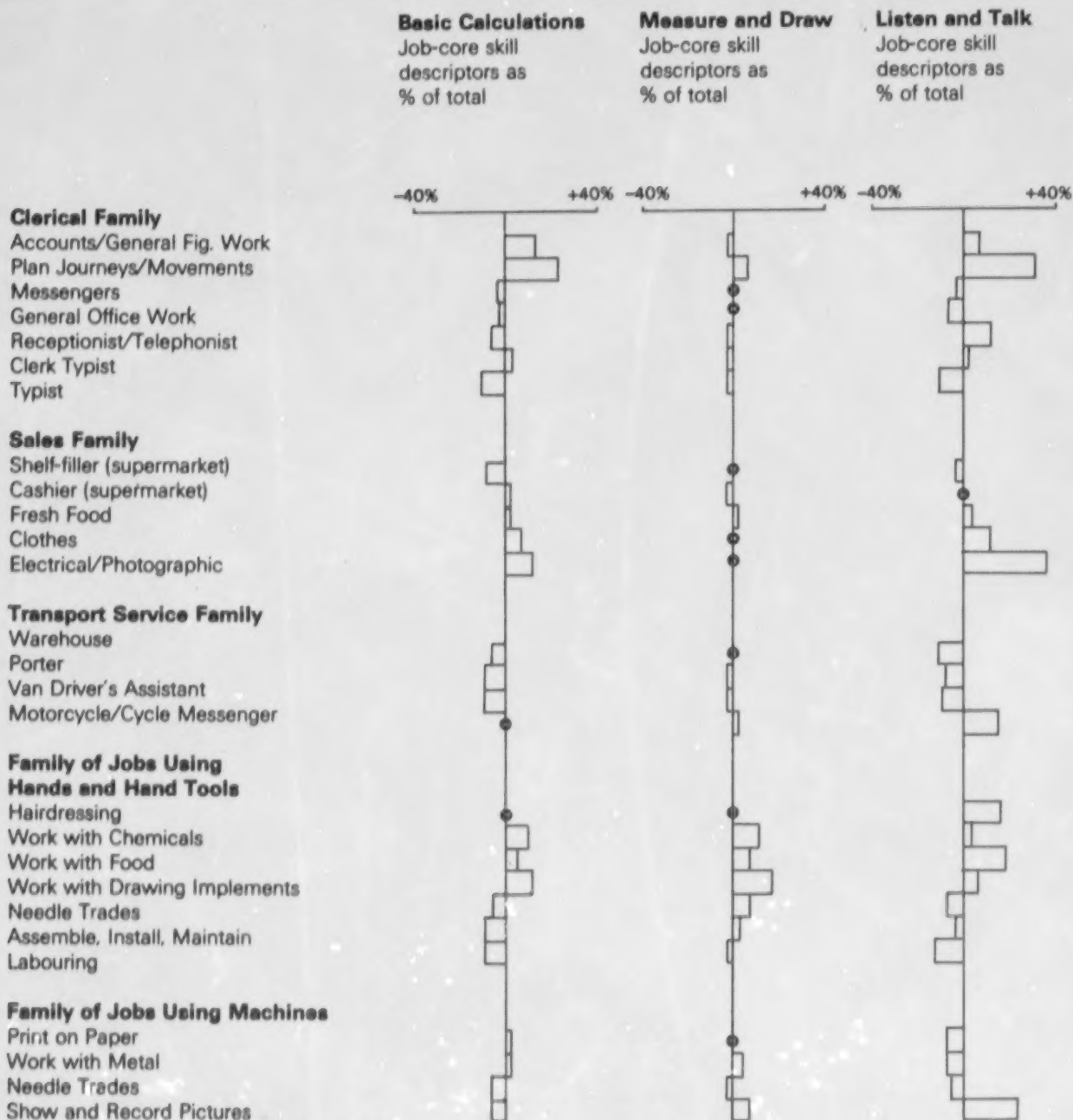
Join by fastening
Equipment to punch holes

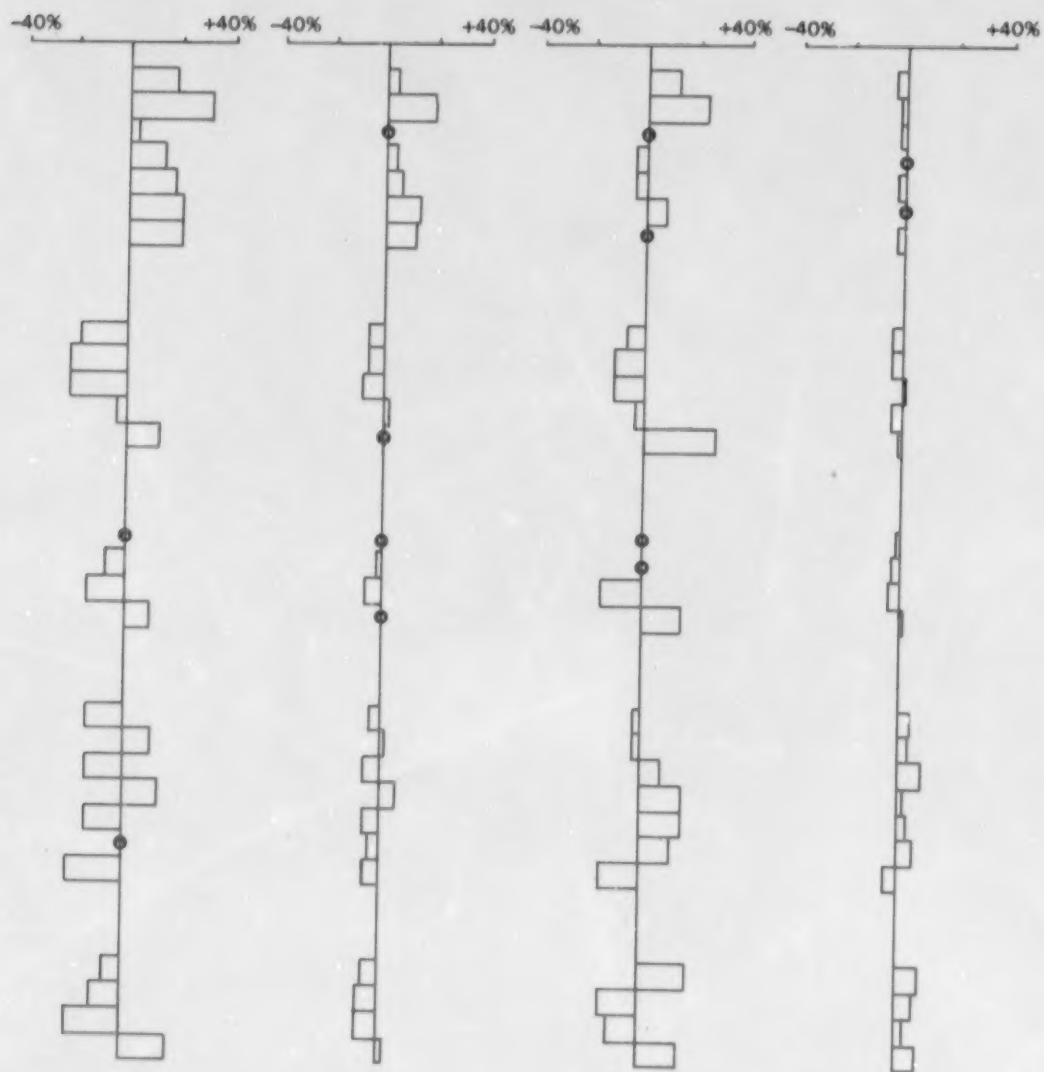
Planning and Problem Solving

Find objects filed/put away
Count objects
Decide job priorities
Correct problems
Sort/grade objects
Sort information by what it's about
Check cause of problem
Collect details of problem
Decide methods/procedures to use
Think of cause of problem
Mistake - delay in job
Make problem less likely to occur again
Put objects/information in order of size etc
Decide amounts/things to order
Security, special precautions
Mistake - tools/equipment damaged

Appendix 7b

Comparison of Job Types with Skill Use



ReadJob-core skill
descriptors as
% of total**Write**Job-core skill
descriptors as
% of total**Plan and Problem
Solve**Job-core skill
descriptors as
% of total**Manipulative**Job-core skill
descriptors as
% of total

Appendix 8

The Assessment of Basic Skills

The Need for Assessment

1. The main sections of this document have discussed, analysed and proposed a concept of basic skills that young people should acquire as they progress through a programme of vocational preparation. These skills, whilst being unique to each individual according to their needs, abilities and the local situation, will nevertheless have to relate to other contexts, usually those concerned with employment or further stages of education and training.

2. The link between the basic skills of vocational preparation, employment and progression to other levels of education and training, will inevitably be closely related to the assessment of those skills. The importance of records of progress and achievement is now widely accepted by both education and training sectors and alongside this is an increasing recognition that profile reporting is capable of linking such records with certification, usually by converting descriptions of *progress* into levels of *achievement* by appropriate procedures of *assessment*.

Qualities of Assessment

3. The essential quality of any assessment process is that it must be *valid*; ie the assessment must relate to what it is supposed to assess and not something else. Manipulative skills will not be validly assessed by written papers; similarly reasoning and problem-solving skills cannot be validly assessed by routine and well rehearsed tasks having a well defined and recognised conclusion. Validity in assessment has, more often than not, to be demonstrated over a period of time.

4. Another essential quality of assessment is *reliability*; second only to *validity*, it is concerned with the consistency or repeatability of assessment. The reliability of assessments can often be increased by introducing more objectivity into the "scoring" procedure. The use of multiple-choice questions in written papers and the use of "go/no-go" tests for manipulative tasks involving accuracy, are typical contributions to increased reliability. It has to be stressed however that increased reliability does not necessarily contribute to the validity of assessment¹ and the two qualities have often to be balanced against each other. Generally, validity should

take precedent over reliability – not always a popular decision.

Understanding skills

5. It follows from the above that unless the nature of the "skill" being assessed is fully understood, both validity and reliability can be questioned. Teachers and instructors proficient in their own subject, in assessing performance in their own specialist area, however superficial it may sometimes appear, are more often than not bringing into that assessment a deep knowledge of the topic or skill under consideration, which allows them to concentrate on the critical points of progression and performance in that skill. When teachers are asked to take on the assessment of skills of which they have less familiarity, their confidence is naturally less. Thus in suggesting, as we do in Section ONE, that all teachers should be teachers of *basic skills*, that they should give increased attention to the generic nature of these skills and teach for transferability, it is appreciated that we are probably increasing their uncertainty. The aim of this Appendix is to discuss and describe ways in which that uncertainty can be reduced by increasing one's understanding of "skills".

Assessment and Learning

6. Many models of performance have been described to aid the formulation and assessment of educational and training objectives. A typical model, associated with Bloom² et al developed and modified by many others, relates the range of learning activity to three domains: cognitive (intellectually based behaviour); affective (attitudinally based behaviour) and psychomotor (manipulative behaviour). Many of the skills we describe in this document, both for the core and the more occupationally specific areas, span at least two of these domains and if the assessment of these activities are to be valid, this too must not be restricted to a single

1. Many readers will be familiar with the apocryphal examiner in English who enjoyed a reputation for being a consistent (ie reliable marker) until it was discovered that he scored by the length of essay measured with a ruler!

2. Taxonomy of Educational Objectives: Vols I/II. Longmans 1956/1964.

domain. Teachers previously concerned only with assessments in one domain may therefore find initially demanding the specification and assessment of skills deliberately spanning more than one domain. This applies particularly where *experiential* objectives are involved:

eg: in the core skills suggested (see Appendix 3), objective 2.6 requires a young person to "*Experience at least three different types of task and evaluate their responses to them*". This requires the teacher to set up the tasks, to ensure that the student/trainee experiences them in a realistic way, to give guidance on how the young person may evaluate their responses to them, and finally as a teacher to assess the young person's "performance" throughout this objective.

7. The assessment of such an objective therefore, will involve direct observation by the teacher; written observations in some form of log, by the young person; discussion of the evaluation criteria between teacher and student; oral and/or written evaluation by the young person; and a final assessment by the teacher. Hopefully, not only will the final assessment be discussed with the young person, but also the implications of what experiencing three different types of task means to that young person, in determining their position as a adult and a worker. In other words only by associating the functions of *counselling* and *guidance* with that of *assessment* will the wider *aims*³ of any programme be achieved.

8. The complexity of dealing with the learning and assessment of this single objective not only illustrates the demanding nature of the work, but also indicates the somewhat oversimplified stance being taken by many in assuming that a skills-based curriculum leads easily and naturally into a standards-based training system. The measurement and recording of human achievement and progress has always been a complex process, often reduced to fit well known and economic testing and examining procedures. Experiential objectives such as described in paragraph 6 above, raise problems of validity that have been overcome in many curricula by the simple expedient of omitting them!

Tasks and Skills

9. None of the above is to deny the usefulness of using the domains suggested by Bloom et al. They are indeed invaluable in analysing the level and content of many of the "skills" described in this publication. Such models are also useful in describing those critical points that are being looked for by tutors and others, as indicators of achievement by young people. What is being stressed here however is the need for the "assessor" to bear in mind the way in which even apparently simple tasks in fact require a complex mix of skills from each domain. For example, the young person operating a point-of-sale terminal in a departmental store does not use his/her manipulative (psychomotor) skills in isolation from the numerical (cognitive) or interpersonal (affective) skills required. The task to be performed is to record the cost of the item, calculate any change required, invoke any stock-processing procedure but at the same time answer any concomitant customer query and, hopefully, encourage that customer to come again. In a simulated training or in a supervised work-experience situation, an impressionistic assessment of how that young person carried out that task *as a whole* will be as valuable (and valid) as a more analytical assessment of the performance in each domain. Both are necessary, complemented hopefully by the trainee's self assessment.

10. More recently, it has been considered useful to distinguish between *product* and *process* skills. The successful acquisition of a *product* skill can be demonstrated by a precisely describable behaviour. For example, connecting a 3-pin fused plug correctly in 5 minutes; typing accurately at 40 words per minute; using a simple electronic calculator for adding VAT to net prices. Clearly some product skills are specific to particular occupations while others have applications in a group of related jobs and some are used in various unrelated activities across various job families and industries. Such skills can be exercised at various levels of complexity, are often learned through routines and usually tested by written and manipulative tests. *Process* skills on the other hand cannot usually be precisely described in terms of exact behaviours, but are

3. Aim 2 was: To provide a basis from which a young person can make an informed and realistic decision with respect to his or her immediate future.

demonstrated by a person's ability in, for example, working with others on a task focussed activity, planning and problems solving, communicating in a variety of situations - listening, persuading, counselling. Process skills also range from those which are specific to particular occupations to those with wide applicability. Indeed many process skills like the examples of communication given above have not until recently been recognised as work skills as such because of the fact that they are continually exercised in other aspects of life at various levels of refinement. Acquisition and development of process skills depend on the manner and contexts in which they are learned and exercised, on the feedback which the learner receives and on the reaction to that feedback. Clearly there are no rote methods for learning process skills nor written or practical mastery tests. Any assessment of a person's level of competence of these skills must relate to the activity, process or situation in which he/she is involved. For example, performance as a member of a group charged with a painting and decorating assignment can be described (but not measured) by reference to instances of behaviour exemplifying variously, leadership, co-operative, supportive or innovative roles.

11. The inter-relationship between these two types of skills are illustrated by the example quoted in paragraph 9 above, it is obviously important to develop methods of assessment which embraces and facilitates the recording of evidence of a young person's attainment in *process* as well as *product* skills both to assist in counselling and guidance and also to provide certification. It is also important to note that in the assessment of *process* skills we are dealing not only with objective assessment which is most appropriate for product skills but with subjective value-judgemental issues which have far reaching implications for the relationship between 'teacher' and 'taught'.

12. What is also important, and possibly reassuring to many teachers, is that one arrives at the same conclusions about the need to use a variety of assessment methods whether one uses the domain-type models based on the work of Bloom or *process* v *product* distinctions described above. They are not exclusive; like all methods of analysis, used indiscriminately they make and attach importance to artificial distinctions. Tutors must beware of falling into

the trap of organising the teaching and learning of skills to make them convenient to assess, thus conforming to a model rather than to real life. Pushed to its extreme this is how we arrive at syllabuses for examiners rather than for learners.

13. To obtain a series of valid assessments of skills an appreciation is required of the components of skill that make up tasks. Such components are:

- knowledge and understanding (eg the basic rules of the task, equipment, technology. . .)
- planning (eg organisation of time, space, equipment in an effective way)
- dynamics (eg physical dexterity, accuracy, timing. . .)
- place (eg the ability to maintain the operation over a prolonged period. . .)
- perception (eg the recognition of "cues", by the various senses: pressure, temperature, instrument readings. . .)
- style (eg in service industries: waiters, hairdressers. . .)
- affective (eg enthusiasm, inter-personal relationships, respect for equipment, tools. . .).

Each component has associated with it a variety of possible assessment methods ranging from the objective written test to an impressionistic observation.

Scoring and Grading

14. Not all tasks or occupations will require all the above components, and each task will have its own weighting of each component. It is not possible for this brief Appendix to deal with the weighting of skill components although regretfully it is an aspect which is generally overlooked. Suffice it to say that if a task or skill is analysed by one of the methods described above, there remains the need to discuss the criteria on which scores or grades are to be allocated. The specificity of the grading criteria cannot really exceed the specificity of the objective(s) that describe the skill or task. For example, consider the core objective suggested in Appendix 3.

6.3.4 *Find and use information from a variety of different sources, including electronic information sources.*

This is, deliberately, not a highly specific objective, and the generation of assessment criteria requires further discussion by those responsible for implementing the curriculum. The teaching notes suggest that dictionaries, catalogues, indexes, encyclopedias, Prestel, etc be used in the fulfilment of the objective; it also gives a cross reference to another objective (9.17) where the use of a D of E Guide is suggested. The teaching/learning material also suggests types of assessment material that could be used. It does not however give guidance with respect to the criteria and grading. This is because it is, like many of the other core objectives, meant to be related to the needs of the individual and to any vocational area that is under consideration. The level of performance can thus be assessed in a variety of ways.

15. One approach, which has been found useful in the School Council's *Skills for Adult Working Life* Project, is to describe the levels in terms such as:

- i. has some knowledge and limited experience of the task but not sufficient for practical application in a work situation;
- ii. can perform some parts of the task satisfactorily but requires instructions and supervision to perform the entire task;
- iii. can perform the task satisfactorily but requires occasional supervision and/or assistance;
- iv. can perform task satisfactorily without supervision or assistance.

These are generalised descriptions of student behaviours which reveal the extent of progress towards achievement of objectives.

16. Another approach would be to describe the information that was actually found and the quality of the work done:

eg "X, in preparing a catalogue showing how different manufacturers designed and marketed similar products, used and interpreted information from

commercial literature and Prestel. X did this with occasional supervision and the quality of the catalogue was well suited to its required use."

Another approach would be to use the familiar generalised descriptions of *Unsatisfactory* and *Excellent* on some form of scale which may well be used to cover a whole range of objectives.

17. Yet another approach would be to use norm-referenced grades such as *Below Average - Average - Above Average*. Generally however norm referenced assessment should be avoided as far as possible. It has a use in formative testing where a tutor is deliberately setting individuals in comparison with his/her peers. This occasionally has a learning value but it hardly describes performance in terms useful to the individual or to a prospective employer. If we are to adopt a skill-based curriculum then we should wherever possible use criteria-based assessment.⁴

18. The grading of "performance" therefore depends upon the specificity of the objective, the degree of local interpretation necessary or desirable and the way in which the performance has to be described and graded. Some skills as well as being *basic* are common to the extent whereby national criteria can be guaranteed:

eg: See Appendix 3, the core objective 6.1.1 requires the student/trainee to *add, subtract, multiply and divide whole numbers, basic fractions and basic decimals*.

Now whilst there is still some debate regarding the word *basic*, it would be easy to make quite specific national criteria by the publication of typical problems that should be used in fulfilling that objective.

Recording Performance

19. It follows therefore that what we define in this document as *basic skills* will require not only a variety of assessment methods to be used, but also a variety of criteria to be developed. These in turn will require

4. A useful discussion of norm-referenced v criteria-referenced assessment, in the context of vocational preparation can be found in the IMS publication: *Foundation Training Issues* 1982.

different ways in which a young person's achievement can be described. Knowledge, skill experience and attitudes make up the competencies that a programme of vocational preparation *basic skills* demands from young people. It is the essence of vocational preparation that some sampling of occupational tasks should take place. It is therefore inevitable that a young person will be better at some areas of skill than at others. What must be avoided therefore is the aggregation of a young person's performance over what we have described as a range of *basic skills*, in such a way as to deceive or deprive. A single aggregate grade whether Distinction or Fail, does not do justice to the curriculum or to the young person. There is now increasing evidence⁵ to indicate that a *profile* method of recording assessments is acceptable to employers, provided it comprises valid and reliable assessments. What has to be realised is that the assessments may vary from a tick (✓); simply indicating that a young person has been exposed to a particular experience; through a written narrative (such as illustrated in paragraph 16); describing the skills demonstrated; to a numerical score or grade; measuring the competence of a young person against set criteria.

20. The separate recording of such a variety of assessments on a *profile* is not only fair to the young person under observation; but it also takes away from the teacher the unenviable task of reducing a complex pattern of human behaviour to a single cryptic symbol.

5. *Profiles* FEU 1982.

Appendix 9

Models of Progression

Contents

Appendix

- 9a Process Based Model of Progression
- 9b Task Oriented Model of Progression
- 9c Objectives Based Model of Progression
- 9d Unit based Model of Progression
- 9e Core/Option Based Model of Progression

Each Appendix includes a diagram of the model with a narrative stating the assumptions on which the model is based and the way progression can be provided into 'level 2' programmes. An FEU comment is given indicating the extent to which each model relates to the "ideal" shown in figures 1 and 2 (pages 16 and 19)

Appendix 9a

Process Based Model

(Engineering: [Hargreaves]¹)

Notes on the Engineering Processes Based Model

The model is based on the following assumptions:

- a) that processes are not restrained by conventional occupational boundaries or the occupational training families (OTFs). Fundamental engineering processes may be common to a number of occupations or even OTFs, eg. cutting - mechanical engineering, agriculture, construction
- b) the learner will sample the processes in the vocational area annulus and this sample will include job knowledge and skills
- c) the processes can be broken down into progressive units (say 50 hours) which will be capable of extension/addition to take into account the different potential of learners (see paragraph 39, section Three)
- d) that it provides for a variety of programmes negotiated between the trainee and the providing organisation
- e) it can provide a basis for progressing to (and credits in) further learning.
- f) that entry for this model into 'level-2' will be defined in terms of measured standard of competence in one or more of the processes.

FEU Comment:

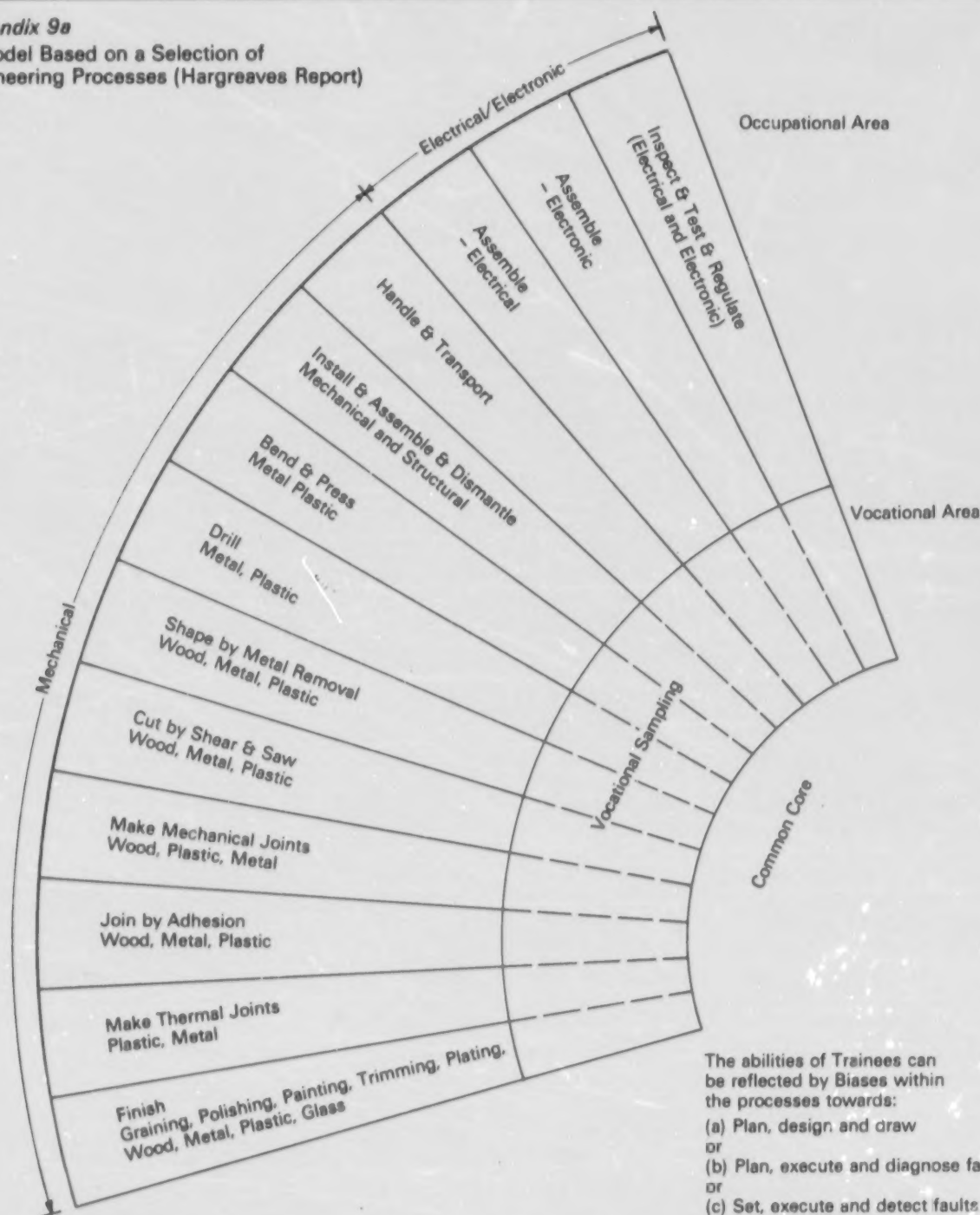
This model has considerable potential to meet the "ideal" shown in figures 1 and 2 (pages 16,19), it requires coverage of the *common-core* and this is a problem of overall programme design, similarly the opportunity to *sample* vocational area skills needs to be included in any overall programme. It can be assumed that the occupational skills power of *progression* into level 2 covered by these processes would be central to CGLI thinking.

Note: CGLO are extending this process approach to other vocational areas.

1. The CGLI Joint Advisory Council for Engineering established a Sub-Committee to review the Institute's Engineering courses under the Chairmanship of Hargreaves. Part of the Sub-Committee's Report recommended that the Institute's Engineering curricula be designed around a number of Engineering processes: the model shown uses some processes.

Appendix 9a

A Model Based on a Selection of Engineering Processes (Hargreaves Report)



Appendix 9b

Task Oriented Model

(Construction)

1. Similar to the other models, this model has been designed to give flexibility in programme design to cater for differences in the local labour market and the availability of local resources.
2. With vocational sampling within each of the five trade groups a programme can be designed so that trainees are able to select three or four specific occupational skill areas which could range within the five trade groups for further experience. This would allow for a larger diagnostic *sampling* experience but would restrict the time spent in the occupational area.
3. Alternatively a programme could be designed, based on the sampling of fewer trade groups which would give more time for the mastery of more occupationally specific skills and support topics.
4. In either case entry into 'level 2' in this model will be defined as those terminal standards which apply to CITB stage 1 training.

Trowel Trade Tasks

The following is a list of *tasks* and related *knowledge objectives* for the Construction trade group of trowel trades at the occupational area level.

Trowel trades are:

- 1) BRICKLAYING
- 2) PLASTERING
- 3) MASONRY
- 4) WALL AND FLOOR TILING
- 5) ROOFING

TASKS

1) BRICKWORK

Construct:

Cavity brickwork

Solid brickwork

Manholes

Walls up to d.p.c.

Partitions in brick, breeze, hollow clay blocks, to receive surface finish.

Solid or cavity work in hollow clay blocks breeze and concrete blocks.

Boundary walls.

Isolated brick piers and columns.

Lay or fix cills and copings internal or external brick on edge and tile.

Build in brackets pipe supports

Point brick and blockwork.

2) PLASTERING

Apply backing coats.

Skim plasterboard.

Apply setting coats.

Rough rendering.

Plain faced rendering.

Lay cement and sand floor and roof screeds.

Apply rendering for tiling.

Rendering on expanded metal.

Apply pebbledash or roughcast finish.

Fix plasterboard.

3) MASONRY

Construct:

Plain faced walling, facings to beams, columns and walls.

Rubble facework bond to backing.

Random and roughly dressed rubble walls.

Mullions, transoms, jambs in dressed stone.

Battered and tapered walls in rubble.

4) WALL AND FLOOR TILING

Fix glazed wall tiles with cement and sand.

Fix ceramic wall tiles with cement and sand.

Fix glazed wall tiles with adhesive.

Fix ceramic wall tiles with adhesive.

Lay floor tiles.

5) ROOFING

Felting and sarking, calculation of gauge and fixing battens.

Plain tiling, clay and concrete.

Interlocking tiling - clay and concrete.

Slating - Local practices - stone slating.

Treatment at eaves, verges, ridges and hips.

Formation of valleys.

Tile and slate hanging - wall and dormers.

TOOL AND SKILL FUNCTIONS

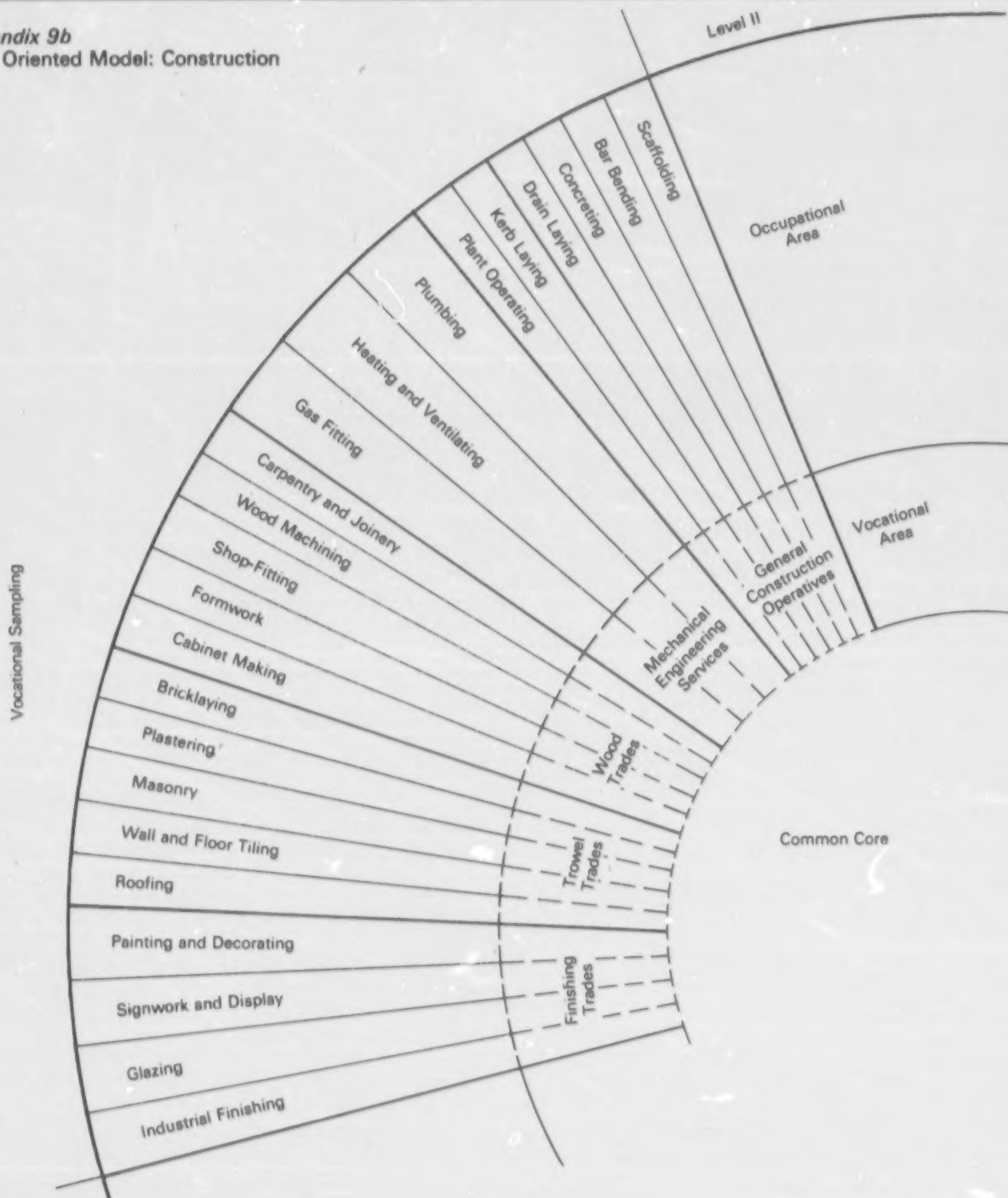
BRICK TROWEL

Picking up mortar.

Spreading mortar to form bed.

Applying cross joints to header and stretcher faces of:-

Appendix 9b
Task Oriented Model: Construction



- i brick to be laid working
- ii brick previously laid working
- iii blocks and stone working

Tapping units into position.
Cutting off surplus mortar face and back.
Flushing up mortar joints.
Rough cutting of soft bricks.

POINTING TROWEL

Picking up mortar.
Applying mortar to joint.
Forming joint.

BRICK HAMMER

Rough cutting of bricks and blocks
Tapping units into position.
Nailing.

CLUB HAMMER

With bolster, fair cutting of bricks and blocks.
With masonry chisels, cutting and dressing stone.
With chisels, cutting out joints and holes.

LINE AND PINS

Lining in horizontally and vertically.
Lining in on the rake.

SPIRIT AND BOAT LEVEL

Plumbing single units
Levelling or collection.
Ranging of units.

JOINTING IRON

Forming recessed, rounded, tooled, vertical joints.

RULING AND TAPE

Measuring for cutting units.
Determining position of units.

COMB HAMMER

Dressing of soft bricks and blocks.

PLASTERERS LAYING TROWEL

Taking material from spotboard to hawk
Taking material from hawk
Applying floating material to walls including LH & RH internal angles, ceiling and floor angles.
Apply finishing material to straight walls LH & RH internal angles, ceiling and floor angles, external LH & RH angles.
Apply finishing material to ceilings flat and ramped.
Troweling to floors.

Cutting scrim cloth.
Applying scrim cloth.

SKIMMING FLOAT

Taking material from spot board to hawk
Taking material from hawk
Applying finishing material to straight walls LH & RH internal angles, ceiling and floor angles, LH & RH external angles.
Applying finishing material to ceilings flat and ramped.

CROSS GRAINED FLOAT

Rubbing up cement rendering to walls LH & RH internal angles, ceiling and floor angles, LH & RH external angles.

CUTTING KNIFE

Cutting board materials.

LATHE HAMMER

Nailing plasterboard and metal lathing.

TRY SQUARE

Marking and checking square.

SLIDING BEVEL

Marking and checking angles.

SAW

Cutting board materials.

GAUGING TROWEL

Picking up mortar.
Buttering a unit.
Tapping units into position.

SCRATCH FLOAT

Taking material from hawk
Applying material to a wall and ceiling.
Scratching backings to form a key.

TILING TROWEL

Picking up material from board.
Picking up material from container.
Applying material to surface.
Spreading material on surface.

TILE CUTTER

Cutting tiles.

PINCERS

Cutting curved and notched shapes in tiles.

PIN HAMMER AND CHISEL
Cutting and trimming tiles.

WALLING HAMMER
Roughdressing stone.

GAUGE ROD
Raise brickwork to gauge.

MATERIALS KNOWLEDGE

The student should be able to:

- i. Recognise, and name;
- ii. State the function;
- iii. State the types;
- iv. Give examples of use, and
- v. State the limitations.

of the following materials:-

Cement, aggregates, concrete, water.
Lime, mortars, sand, plasters.
Adhesives, additives, grout, bonding agents.
Bricks, blocks, natural stones, reconstructed stones, wall tiles, sheet mosaics, plasterboard, brackets and supports, scrim cloth, angle bends.
Covings and mouldings, jointing tape, metal lathing, d.p.c. materials, air bricks, flue liners, chimney pots, drain pipes, copings, sills, roofing tiles and slates.

KNOWLEDGE OF PROCESSES AND PRACTICES

SUBSTRUCTURE

The student should be able to identify and state the function of -

Foundation trench
Concrete foundation
Foundation walls
Solid ground floor
Hollow timber ground floor
Oversite concrete
Damp proof courses
Air gate, vent or brick
Wall plate
Solid walls
Cavity walls
Partition walls
Chimney breast
Hearth
Chimney stack

SUPERSTRUCTURE

The student should be able to identify and state the function of -

First floor joists
Trimming for hearth
Roof trusses
Door frames
Door linings
Window frames
Lintels
Copings
Threshold.

EXTERNAL WORKS

The student should be able to identify and state the function of -

Drainage runs
Manholes
Soakaways
Boundary fences
Paths and pavings

SCAFFOLDING

The student should be able to identify by name, inspect for safety, state type of work suitable for -

Ladders
Split heads
Trestles
Unit Frame
Putlog
Independent

State the relevant parts of the Statutory Safety Regulations with respect to:-

Guard rails
Toe board
Traps in boards
Erection and use of ladders
Gin wheels

SAFETY

The student should be able to identify and state the function of -

Goggles
Gloves
Safety helmet
Rubber boots
Waterproof clothing
Duffel coat
Safety footwear

INDUSTRIAL KNOWLEDGE

The student should be able to:-

Recognise different forms of buildings and the main principles involved in their construction.
State the stages in designing a building from defining function to production by working drawings.
State the role of each of the members of the design and construction team.
State the main stages in the construction of buildings.

FEU Comment

This model is illustrated in considerable detail in that it includes lists of tasks and related knowledge objectives for trowel skills. This model has potential to meet the "ideal" shown in figures 1 and 2 (pages 16,19) it does not of itself however guarantee the coverage of the *common-core*.

There are opportunities to *sample* as described in paragraph 2 and 3 above. It would be our opinion that no less than 3 or 4 specific occupational areas should be *sampled* by each individual.

This model which originates from a monotechnic construction college exemplifies the problem of providing adequate *sampling* opportunities for vocational preparation trainees. There should be an opportunity to sample at least 3 vocational areas. This requires inclusion in any overall programme. There are obvious opportunities for *progression*. What is not clear is the extent to which the coverage of the *common-core* and *sampling*, as required above, allows the standards applying to CITB occupational skills stage 1, to be reached.

Appendix 9c

Objectives Based Model: Food Preparation and Service

This model provides a list of objectives required for progression to high level work in catering and associated occupations. Entry for this model into 'level-2' is defined in terms of the learner's mastery of the listed objectives, or in terms of existing course provision.

List of Objectives Required for Progression into Level 2 Work in Catering and Associated Occupations

INTERPERSONAL

Working as a team/in co-operation with others
Organising self/materials/tools/workspace
Self/work presentation
Working to a set standard
Judging standards
Observing
Observing/understanding/keeping rules of safety and hygiene
Being smart/clean/neat/wearing appropriate clothing
Customer relations/dealing with people/clients etc
Study skills

PRACTICAL

Can understand and use large kitchen equipment eg
Ovens
Grills
Microwave cookers
Deep fat fryers
Hobart etc

Has some knife skills
Can understand and use small hand tools
Use hands as a tool
Carry out simple/food related scientific experiments
Can cut, prepare and cook vegetables
Make the 3 basic sauces
Make the 5 basic soups
Make the 2 basic stocks
Make the 3 basic pastries
Use and understand basic cake making methods
Knows cuts of meat - pork, lamb, beef, poultry etc
Methods of cooking - boiling, roasting, steaming, grilling, stewing
Identify/put right faults/mistakes etc

NUMERACY

Understand and use costing methods (eg what does 1

cost if 30 cost?)
Portioning
Ratio/proportion
Ordering/sorting
Measurement - weighing using metric and SI Units
volume using metric and SI Units
length using metric and SI Units

Temperature
Time
Understanding of profit
Understanding of VAT
Understanding of tipping
Keyboard skills (typing, calculators, tills, computers)
Use of requisition/order forms
Judgement/"rule of thumb"
Estimating

COMMUNICATION

Read written instructions/recipes etc
Make out menus
Know technical terms/vocabulary
Knowledge of kitchen French
Knowledge of convenience foods
Making comparisons/sort fact from opinion
Knowledge of the industry/available careers etc
Knowledge of commodities/storage/origin
Brief knowledge of food production

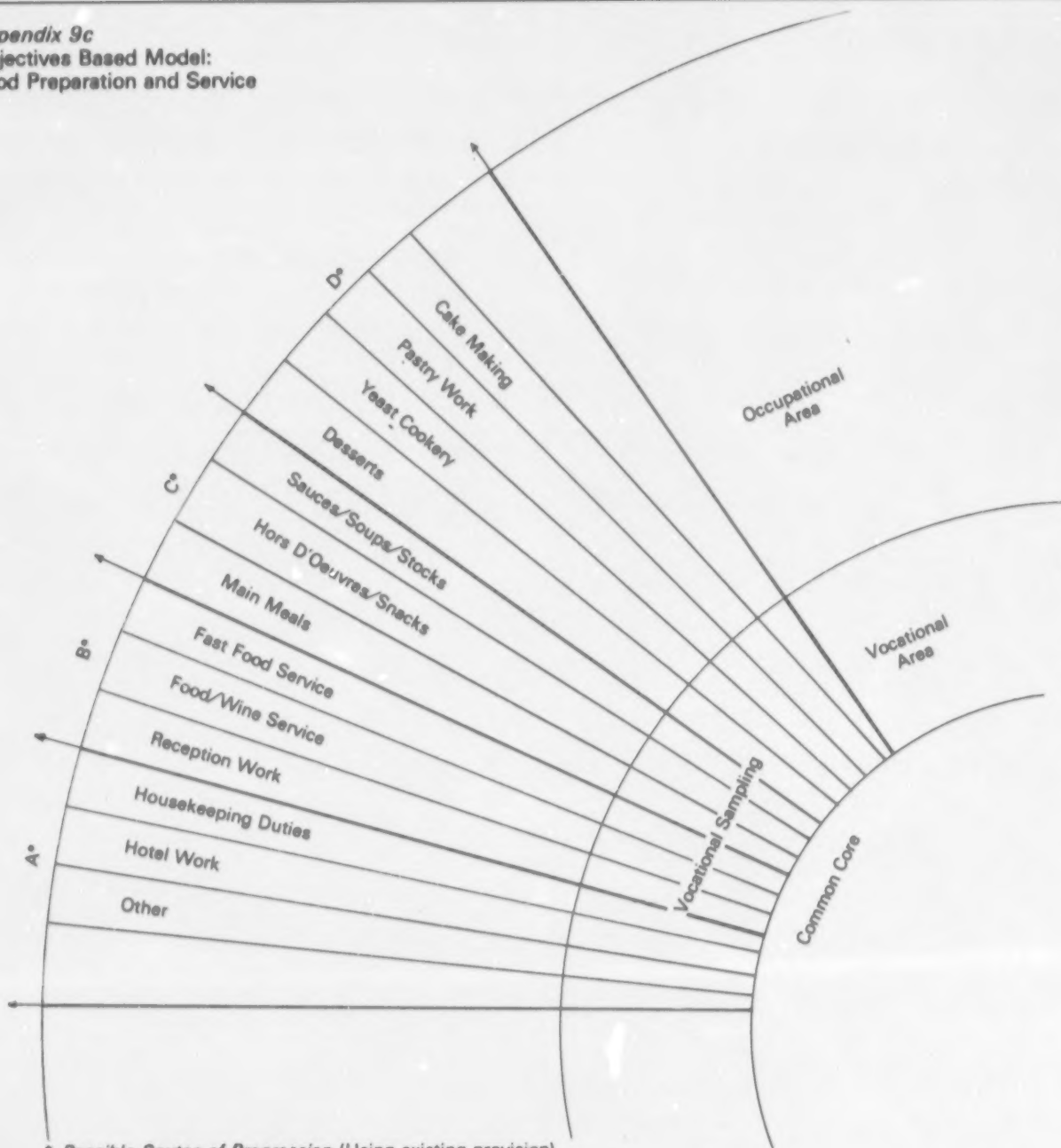
SCIENCE RELATED

Understanding of nutrition/food constituents
Understanding of the needs of the body
Understanding of digestive processes
Use of food in the body, amounts needed
Understanding of calorie intake
Use of microscope
Understanding of germs/bacteria/how disease is spread
Understanding of food poisoning
First aid/treatment
Heat transfer/how food cooks etc
Understanding of methods of preservation

FEU Comment:

This model confronts colleges with a list of occupational objectives from which they could construct a programme related to the needs of an individual and to the local situation. By using the *common-core* and selecting appropriate occupational skills, adequate

Appendix 9c
Objectives Based Model:
Food Preparation and Service



* Possible Routes of Progression (Using existing provision)
 A & B could lead into - C & G 705 or 708, institutional management
 B & C could lead into - C & G 709 or 707
 C & D could lead into - C & G 706/1/2/3, TEC Home Economics
 C & G Family & Community Care

sampling of vocational areas could be possible. What is not clear is whether such a programme design would then satisfy any of the existing courses on which *progression* appears to rest.

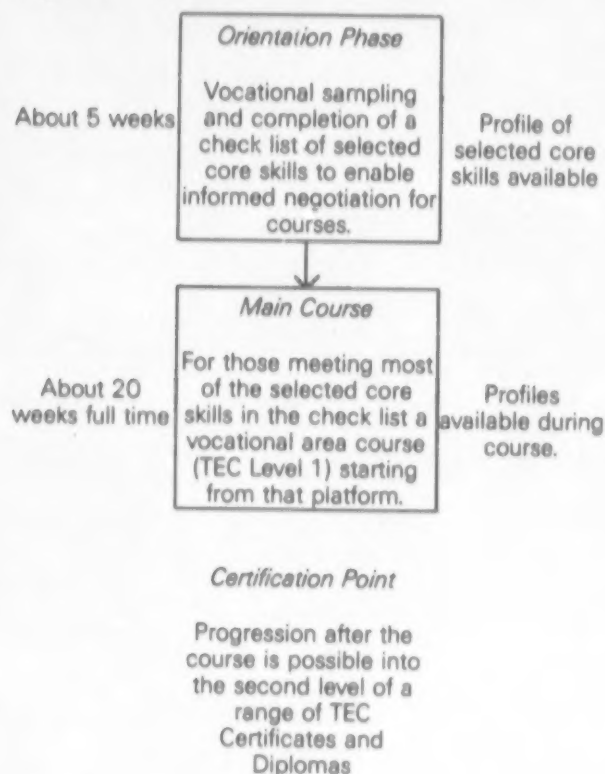
Therefore to take this model nearer to the ideal shown in figure 1 and 2 (pages 16,19) requires more detailed work on the objectives to make clear to teachers, trainees and examining boards the standards of achievement involved in the mastery of these objectives relative to existing courses.

The work to be done not only requires a greater refinement of the objectives, but it also requires adequate cross-referencing to objectives covered by the existing courses. The completion of such an exercise may well require some modification of the existing courses if the "ideal" vocational preparation model is to be implemented.

Appendix 9d

A 'Unit Based' Model

The Technician Education Council, in conjunction with MSC, have developed a vocational preparation scheme called Technician Studies. This scheme has the following structure:



All present vocational options include a core of:

- Mathematics 1
- Physical Science 1
- General and Communication Studies 1

With careers guidance and further work on *basic skills*. In addition there are three to four Units relating to the vocational area, eg the engineering area course includes:

- Workshop Processes and Materials 1
- Engineering Drawing 1
- Electrical and Electronic Practice 1
- Microelectronic Systems 1

Each vocational area group of Units is broad and is designed to allow progression to the second level of a range of TEC programmes.

Supplementary Units can be taken by students. These might be particularly appropriate for those with relevant GCE 'O' level/CSE exempting qualifications.

FEU Comment:

This scheme is intended for young people who aspire to become technicians.

Within the inevitable constraints of selection that this imposes there is a potential to fulfil the "ideal" shown in figures 1 and 2 (pages 16,19). It does not of itself however guarantee the coverage of the *common-core* that is a problem of overall programme design, similarly the opportunity to *sample* vocational area skills is not guaranteed, and this also requires inclusion in any overall programme. It can be assumed that the power to progress into these level 2 standard Units would be central to TEC thinking.

Therefore to take this model nearer to the "ideal" requires the use of the full FEU common-core as a checklist at all stages in the scheme but particularly in the *orientation phase*. All learners, young and adult alike, have a right of access to the whole *common-core*. Incorporating the *common-core* into the scheme is an important step in raising the awareness in teachers and trainees of the opportunities which the *common-core* affords. By relating only those common-core objectives to the *skills needed* by technicians could significantly restrict *skill-transfer* and deprive trainees of the opportunity of a broader education.

Appendix 9d
Progression to
Level II in TEC
Certificates
and Diplomas

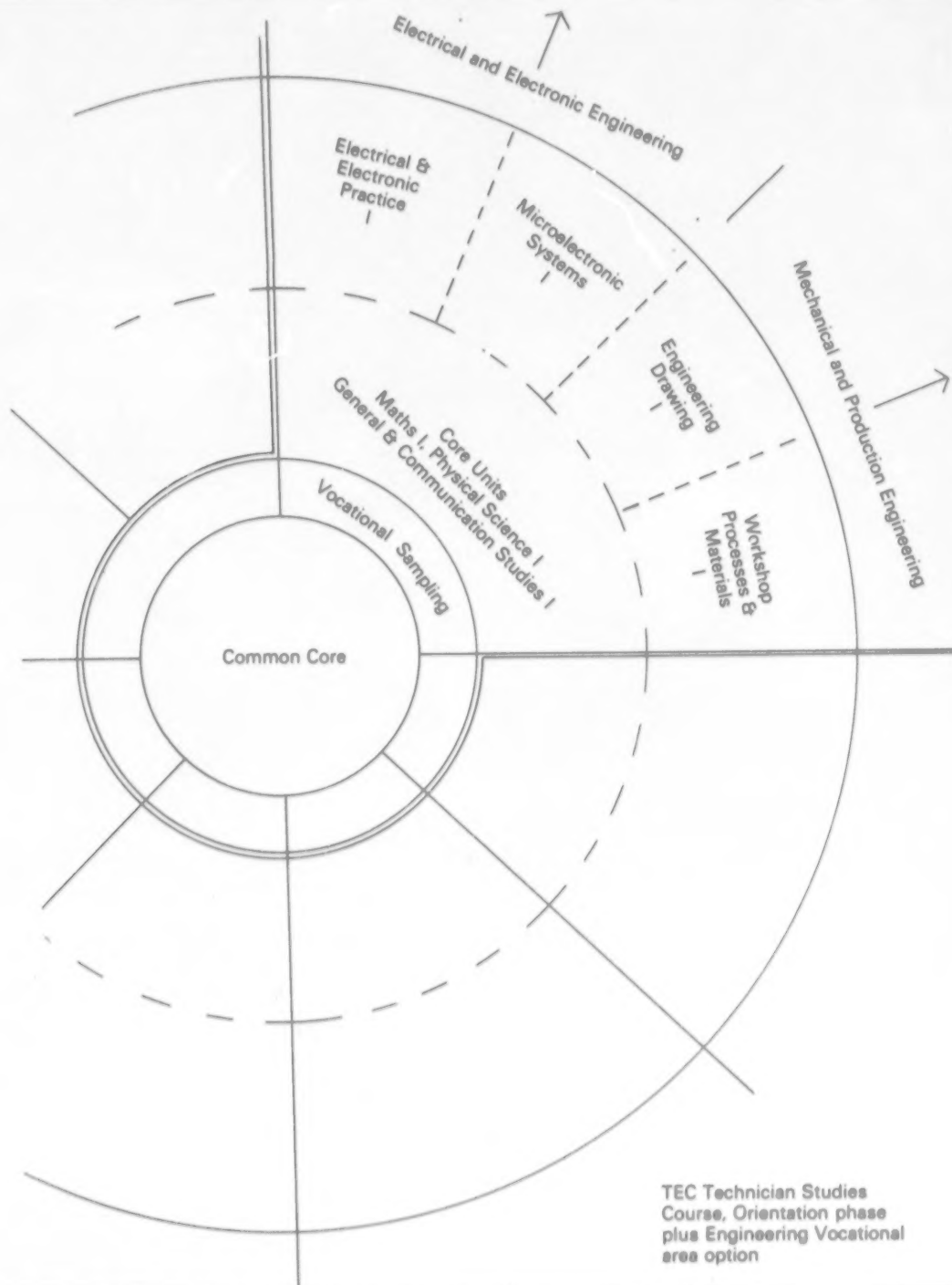


Diagram illustrating the Common Core structure for Level I in TEC. The structure is centered around a 'Common Core' circle, which is surrounded by a ring divided into five segments:

- Vocational Sampling
- Core Units
- Maths I, Physical Science I, General & Communication Studies I
- Construction Processes
- Construction Drawing

A dashed circle is also shown, indicating a progression path. Arrows point from the 'Building Services and Components' and 'Building Services' segments towards the bottom right, indicating progression to Level II in TEC Certificates and Diplomas.

Appendix 9e

Core/Option Based Model: (Administration, Clerical, Office Services)

1. This shows a core/option based model, related to administrative, clerical and office services. The vocational area modules shown in the diagram are the "core" modules considered by the RSA Examining Board.¹ A range of specialist options at the appropriate level could be undertaken subject to the individual's motivation and ability. The model gives examples of what such options might be.

2. The vocational area skills roughly coincide with the provision made by schemes such as the RSA's own vocational preparation courses. The occupational area skills could be covered by selecting from its Single-Subject awards or by combining a number to form a Group Award.

3. For this model, entry into 'level 2' will be determined locally with guidelines supplied by an appropriate validating body.

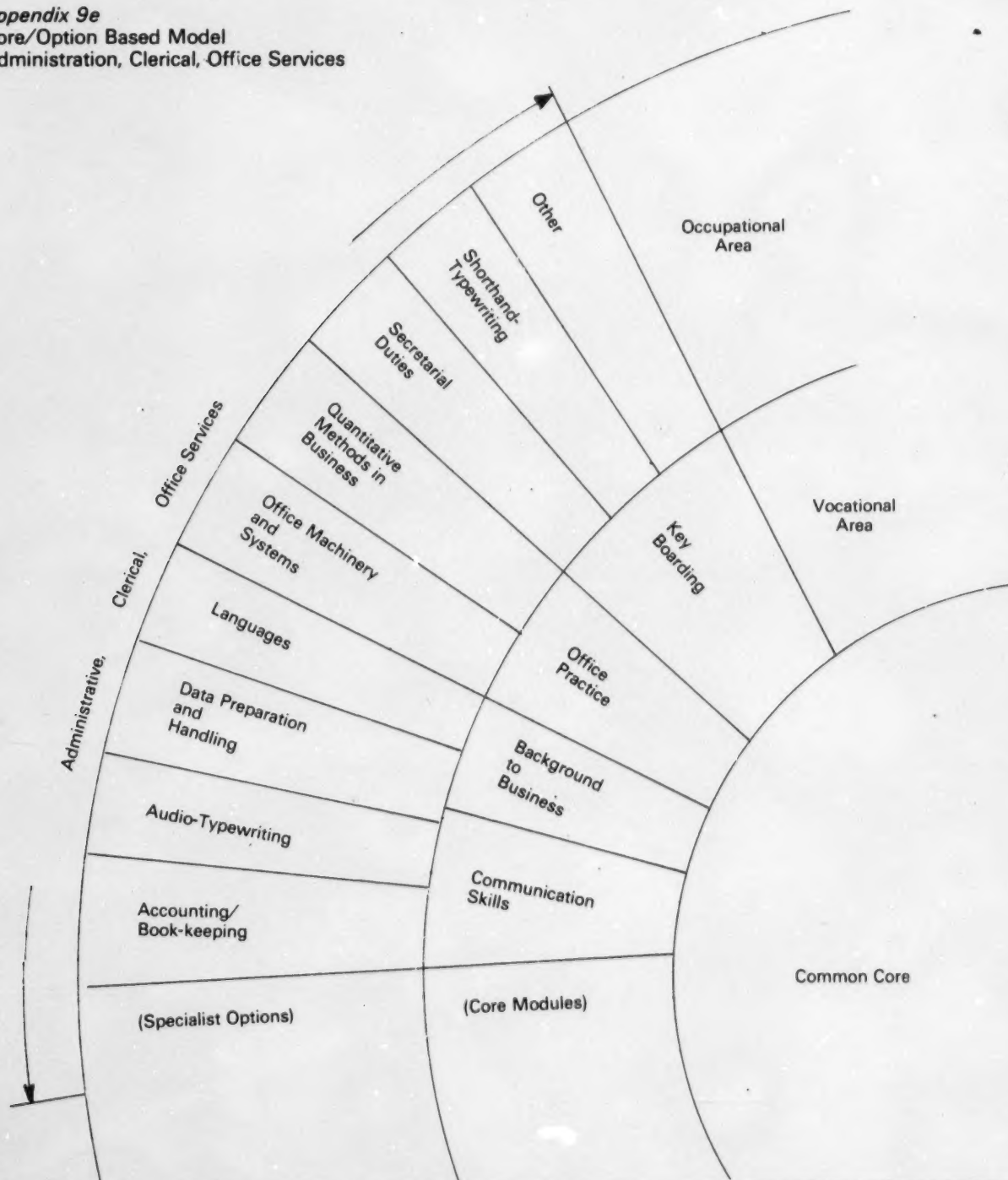
FEU Comment:

This model does not in itself guarantee the coverage of the FEU *common-core*. The range and opportunity to *sample* appears restricted to virtually one major vocational area. Programme designers would therefore need to include these aspects in any overall programme. The criteria for progression appears to be based on college discretion rather than on agreed standards; such a formula is hardly likely to sustain the pressure from N.T.I. for schemes based on competence.

To take this model nearer to the "ideal" shown in figures 1 and 2 (pages 16,19) therefore requires more detailed work on the relationship between the Vocational "core" modules and the occupation area option. For example the cognitive demands of the specialist options are surely different and deserve more guidance from the RSA with respect to criteria, accreditation and exemption for each option.

1. See their report "Office Technology": "the implication for Education and Training in the 1980's".

Appendix 9e
Core/Option Based Model
Administration, Clerical, Office Services



Appendix 10a

Progressive Skill Structure – A College Model

Vocational Preparation Programme Based on a Progressive Skill Structure for the Construction Industry

Introduction (see figure 1)

1. The programme has been developed, after full consultation with representatives from the Construction Industry to provide a vocational preparation for young people.

It is designed to provide training for progressive learning and experience within the Construction Industry, starting with a broad base and leading to more occupationally specific training.

The craft training modules selected, were influenced by the present and possible future job opportunities in the construction industry and resources available in the college.

The programme is of one year's duration which includes periods of training in craft practice and related subjects in the college, supplemented by practical "on the job" experience, working for a constructional firm sponsored by the college/CITB. An example list of terminal objectives related specifically to brickwork is appended.

Aims

2. The vocational preparation programme has been designed to motivate and encourage young people to improve their basic educational skills; to introduce them to the responsibilities and attitudes of the world of work and to assist them in making an informed choice of career within the Construction Industry. It should also ease their introduction into the industry and provide a basis for the subsequent development of specified skills and provide for progression and exemption in further learning within the Construction Industry.

Guide to Training

Phase 1

During the first twenty weeks of the programme, the student will be given a broad based introduction to the construction industry with the wide range of craft skills involved in:

Carpentry and Joinery
Brick Work
Painting and Decorating
Plastering

Towards the end of the first phase in college, it is envisaged that some students may have chosen a specific craft for specialisation, whilst others may require guidance in their choice, deferring selection until a later date.

Phase 2

An eight week period of general "on the site" experience, working with various craftsmen to gain further craft skills and assistance in selecting a craft for specific training.

Phase 3

College based specialised training in the craft nominated by the student. This six week period will be intensive and is intended to provide a framework to assess ability, aptitude and incentive for prospective employment.

Phase 4

A further period of eight weeks "on the site" experience in the craft skill previously nominated by the student, terminating with a test of competency in the practical skills and technology associated with their craft.

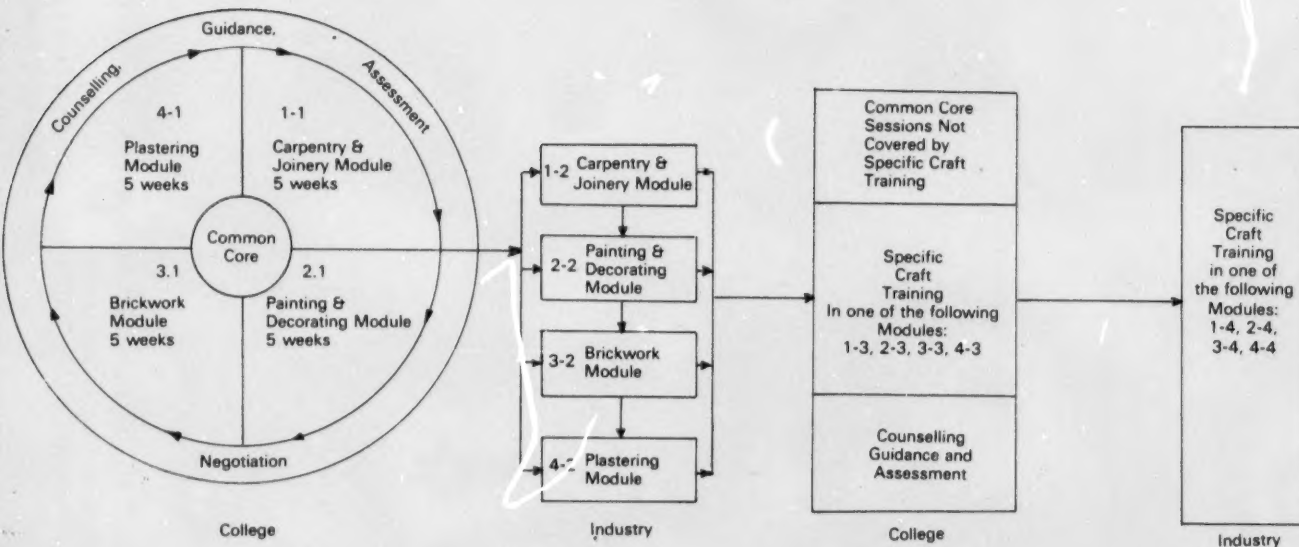
Figure 2 illustrates how this college scheme relates to the "ideal" shown in figures 1 and 2 (pages 16,19)

FEU Comment:

The scheme described above has, at the time of writing, been running for a couple of years at Blackpool and Fylde College of Further and Higher Education.

We use it here to illustrate that the principle of *progression* already exists in practice at a local level:

Figure 1
Blackpool and Fylde College of Further and Higher Education
Implementation Model of Vocational Preparation in Construction



Phase 1
 20 weeks cyclical college based introduction to craft skills and associated technology and, assessment and development of other common core skills and, counselling and career guidance.

Phase 2
 8 weeks general 'on-site' experience – supported by a nominated person

Phase 3
 6 weeks specialisation on craft skills of own preference and, practice and development of common core skills and, counselling guidance and assessment

Phase 4
 18 weeks consolidation and further experience 'on-site' in the same craft skill as phase 3 terminating with a test of competency in practical skills and associated technology and, levels of literacy and numeracy.

many other examples can be found and we hope to include them in a forthcoming FEU publication aiming to assist colleges in supporting NTI programmes.

Details of the *common-core* actually covered by this scheme are not available but assuming that the full core is somehow covered, in this respect the scheme relates to the "ideal" model.

By showing only one vocational area in the college model we do *not* imply that induction and vocational sampling should take place solely across one vocational area, in this case the vocational area of Construction. *Sampling* across a range of vocational areas should be an integral part of an overall programme.

We said in ABC (paragraph 18) "courses could not assume even a provisional preference on the part of all students at enrolment, and that some kind of induction phase would be necessary to help them develop this. Other students would express immediate preferences, the foundation for which should be explored and checked during the induction phase, since the degree to which these preferences were well informed or consistent would vary".

There is therefore a need to design a college-wide and/or co-ordinated multi-agency induction phase so that the vocational area in which the student chooses to progress is assisted by careers guidance and some real *sampling* experience of a number of vocational areas.¹

Progression to level 2 has obviously been considered by the college and in terms of CITB activities some progression appears to exist. If such a model was to be extended however the issue of progression would need to be related to further educational opportunities as well as to ITB schemes. This emphasises the need to include the *common-core* and vocational *sampling* in any overall programme design.

1. See *ABC in Action* FEU 1981

Appendix 10b

List of Programme Terminal Objectives in Specific Craft Training in Brickwork Objectives

Students should be able to:

1. Use and Care of Tools

- recognise all the bricklayer's tools and know what they are used for
- clean and maintain all of the tools
- use the tools in a correct and safe manner

2. Rolling and Spreading Mortar

- correctly position bricks and mortar board prior to commencement
- mix mortar to a suitable consistency
- load mortar boards correctly
- use brick trowel to roll and pick up mortar from board
- spread mortar to a given line
- butter joints to header and stretcher face of bricks

3. 1/2 Brick Walls in Stretcher Bond

- make and use a gauge rod
- lay four stretchers in line and level
- erect a quoin and maintaining plumb, level and gauge
- rack back and maintain line of tail-ends
- cut bricks using a brick hammer
- cut bricks using hammer and bolster chisel
- build a right angle quoin

Students should be able to:

4. 1 Brick Walls in English and Flemish Bond

- dry bond a wall in English and Flemish bond
- cut queen closures
- build a short wall in English bond
- build a short wall in Flemish bond
- build a right angle quoin in English bond
- build a right angle quoin in Flemish bond

5. Cavity Walls

- set out a short straight length of cavity wall, brickwork both leaves
- position horizontal damp proof course
- position cavity tiles
- position vertical damp proof course and close cavity
- position a door or window frame

- build a cavity wall with a block inner leaf
- use a cavity lathe

6. Pointing and Jointing

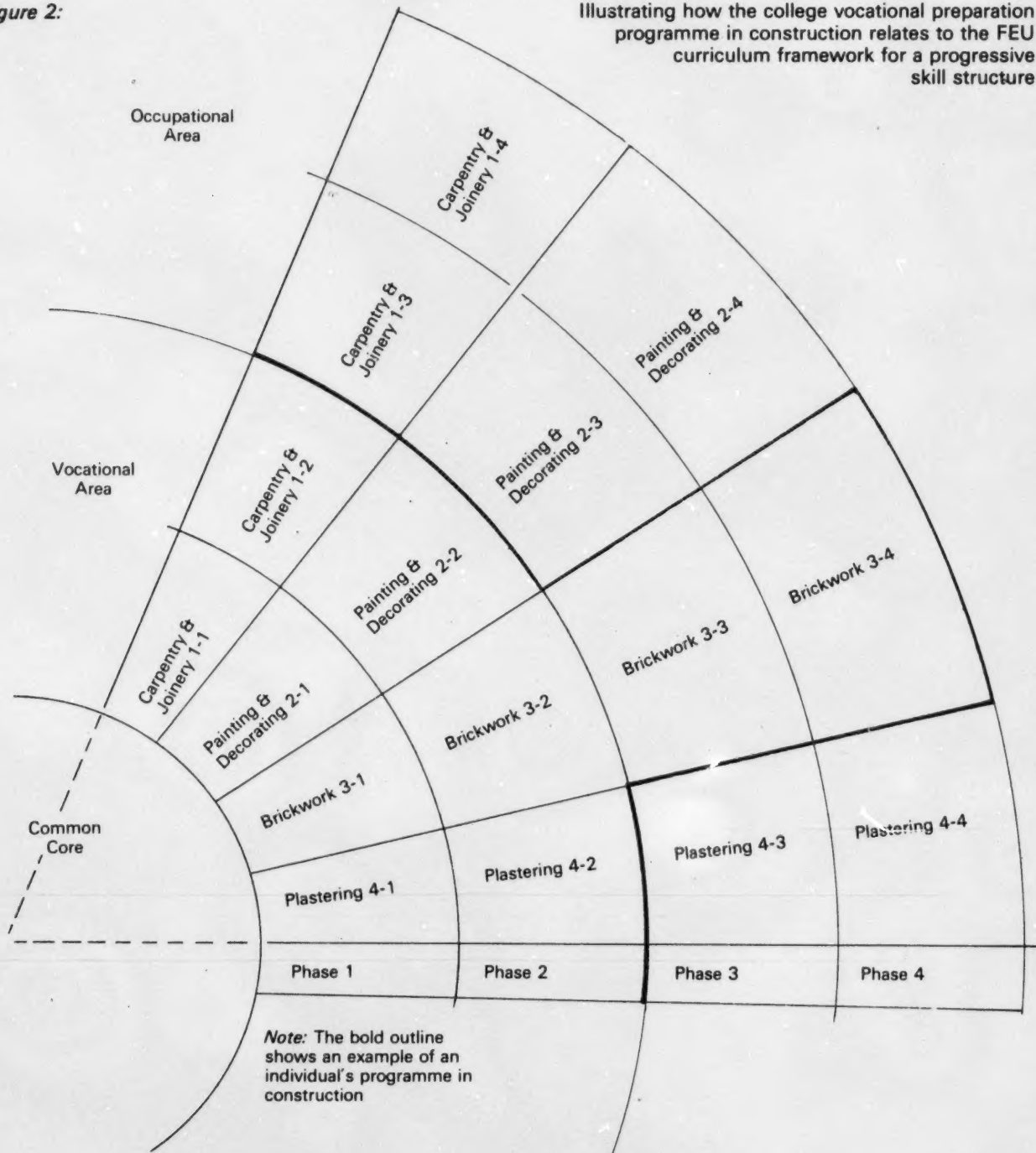
- produce a half round joint finish
- rake out joints to a section of wall
- produce a weather struck finish

FEU Comment:

This example gives some idea how the modularisation implied in Figure 2 (page 19) could be applied. Like the other examples shown in Appendix 9, the relationship to the 'ideal' shown in Figure 1 (page 16) needs more explanation.

Figure 2:

Illustrating how the college vocational preparation programme in construction relates to the FEU curriculum framework for a progressive skill structure



Appendix 11

Staff Development Programme – A College's Account of a Reactive Approach

The programme started with a staff meeting to identify their own needs. The preparation of a list of the teachers' needs was seen as an important first step in developing a staff development programme. The list below represents a synthesis of their stated needs.

A. Knowledge

Staff required more information than is currently available on the following matters:

- i. Support Agencies:
the structure, functions and procedures of support agencies, together with contacts – in particular, MSC, DHSS, Careers Advice, Accommodation;
- ii. Careers:
changes in the pattern of jobs and career opportunities at 17-plus;
- iii. Pre-16 Education:
Curriculum provision and methods of both *feeder* schools and of Special Education;
- iv. Materials:
Sources of teaching/learning materials designed for vocational preparation;
- v. Young People's Backgrounds:
the implications of the more diverse social/cultural backgrounds of young people now entering Further Education;
- vi. New Concepts:
concepts associated with recent education developments eg *generic skills*;
- vii. Related Studies:
those aspects of the curriculum related to, but not previously part of, the subject specialism of members of staff. This would not only facilitate an interdisciplinary approach, but also allow each member of staff to contribute to a wider range of programmes.
- viii. Changing Role of Teacher:
the implications of the teacher's role as a bridging agent between the worlds of education and employment/unemployment.

B. Context

Staff frequently expressed a desire for changes in their working environment which would lead to:

- i. Forum of Ideas:
provision of a college wide forum for practitioners to consider development of eg teaching resources, accommodation, numeracy, literacy;
- ii. Programme Teamwork:
a programme team approach, eg via time-tabling a common non-contact hour: involve teachers more in programme design and continuous curriculum development;
- iii. Student Feedback:
facilitation of systematic provision for feedback from students;
- iv. Recognition
 - a. Of Effort: recognition of staff involvement in extra-curricular activities;
 - b. Of Expertise: positive encouragement of the development of new teaching and learning strategies (eg team-teaching; paired teaching; individualised and distance-learning) as well as formal recognition of expertise in working with students with learning difficulties.
- v. Study Leave:
licencing of extended study leave for individuals to pursue their own work schemes rather than structured courses;
- vi. Genuine Debate:
encouragement of genuine debate on fundamental principles of Further Education provision;
- vii. Negotiated Staff Timetables:
account to be taken at the time-tabling stage of the individual teacher's strength and weakness in the context of the demands of a specific course teaching requirements (eg repetitive demands of a series of end-on short courses);
- viii. Alleviation of Insecurity:
reduction of teacher's sense of insecurity through:
 - a. demonstration of official concern for quality of provision;

- b. encouragement of innovation and risk-taking;
- c. acceptance of situations where learning outcomes cannot be easily measured or demonstrated.

Skills

Staff would welcome assistance in developing the ability to:

- i. Empathise:
 - a. gain insight into the ways in which young people see the world, anticipating their reactions to situations and experiences;
 - b. recognise and diagnose the underlying causes of behaviour which differs from that expected;
- ii. Motivate:
 - a. motivate reluctant learners;
 - b. prepare and present materials in a way most likely to engage the interest of young people with little extrinsic motivation;
 - c. recognise the strengths and successes of young people and build on their interests, talents and experiences.
- iii. Manage Groups:
 - a. employ group-leader techniques and manage dynamics of groups that are of mixed ability and interests;
 - b. employ teaching methods suitable for mixed-ability groups;
- iv. Manage Situations:
 - respond flexibly to situations as these develop in classrooms, workshops or residential periods, so effectively exploiting their potential for learning;
- v. Manage Projects/Assignments
 - advise, structure and evaluate project/assignment-based learning;
- vi. Counselling
 - counsel young people in respect of programme matters (eg option choices) and personal matters (eg career possibilities);

D. Resources

The following facilities are seen as assisting staff in meeting the needs of those on vocational preparation.

- i. Time Allowance:
 - a. for programme design, continuous curriculum development in teams, progress meetings, revision of schemes in the light of experience;
 - b. to work out individual student-timetables arising from negotiated programmes;
 - c. for reflecting and developing ideas, both alone and with other members of staff;
- ii. Facilities:
 - a. more rooms furnished and arranged to encourage an informal atmosphere;
 - b. more non-specialised workshops (eg based on domestic context for practising wide range of appropriate skills);
 - c. allocation of specific classrooms to individual teachers;
 - d. production of a students' advice-bureau;
 - e. provision of a bank of vocationally-based numeracy and literacy materials;
 - f. production of an inventory of skills to be enhanced amongst students.

The College's translation of this list into an active staff development programme started with a pattern of provision designed to provide -

FLEXIBILITY - to meet the varying needs of individuals and teams, allowing as far as possible each to work out their own programme according to their needs and circumstances.

CO-ORDINATION - since participation in the scheme may often be in conjunction with and rely upon collective activities, there is a need to co-ordinate institutional provision.

TIME - one of the key factors in facilitating the acquisition of new knowledge skills and experience is time, a period specifically set aside for that purpose was seen to be required. A reduction in class contact hours was essential, met by a commitment by teachers to devote additional time in pursuit of their personal and team programme.

A range of provision from which a member of staff was able to select a set of activities was then evolved.

Forms of Activity:

Needs:

(Several examples of each kind of activity may run simultaneously, each one primarily concerned to meet a particular requirement) (refer to the list of needs)

1. 'In house' workshops, some independent but normally arranged as a series, organised around particular concerns. eg building a Numeracy Problem Bank. Ai, Aiv, Av, Avi, Avii, Bi, Ci, Cii

2. Seminars/workshops led by outside experts. Aiii, Ciii, Cv, Cvi

3. Seminars/workshops with principal contributors drawn both from within the college and from outside. Aii, Aviii

4. Seminars/workshops for senior staff to consider factors affecting staff morale and achievement arising from vocational preparation. Bi to Bviii

5. Visits to other institutions. Aiii

6. Leave for study and reflection. Bv

7. Observation of experienced staff. Ci, Cii, Ciii, Civ, Cv

8. An 'open forum' regularly held at short intervals. Bi, Bvi, Bviii

Appendix 12

Glossary of Terms Used

ABC

"A Basis for Choice" (the Mansell Report) (FEU 1979). A report concerned with 16+ year olds on Pre-Employment Courses. It proposed a framework or criteria for all such courses, consisting of a common core and an induction period, a broad vocational focus, some specific job skills and assessment and achievements laid out in the form of a profile.

Basic Skills

Those skills basic to a learner's progression into higher-level education or training schemes - his or her individual synthesis of knowledge, skills experience and attitudes.

Clusters

Groupings of skills, job etc on the basis of statistical evidence of relationship between them eg. job clusters would contain jobs requiring similar skills.

Common core check list

A list of items to which all learners should have access. It differs from a syllabus in that whilst latter has usually to be worked through in some form of sequence from beginning to end, a checklist is used to assess the needs of each learner. It also aids programme accreditation.

Coombe Lodge

The Further Education Staff College

Counselling Guidance and Assessment

Necessary prerequisites to helping a young person to assess realistically his/her potential and job prospects. In *Vocational Preparation* (FEU 1981) counselling, guidance and assessment is seen as being unified into a single curricular component.

CGLI

City and Guilds of London Institute. The CGLI awards certificates for studies, mainly part-time and primarily at operative and craft level.

DES

Department of Education and Science

FE

Further Education, correctly used to mean all post-

school education excluding universities, but sometimes used to describe non-advanced further education (NAFE) as distinct from advanced further education (AFE).

Generic Skills

Skills that are used in and are fundamental to the performance of many tasks carried out in a wide range of occupations.

ILEA

Inner London Education Authority

IMS

Institute of Manpower Studies

MSC

Manpower Services Commission - a body established under the Employment and Training Act 1973 to undertake the Department of Employment's responsibilities for training and employment exchanges.

Negotiation

A process whereby the aims, objectives, goal and content of a training programme are agreed jointly by trainer/tutor, trainee and other relevant individuals.

NTI

A New Training Initiative. MSC Consultative Document May 1981.

Objective

Overt objective is the actual activity in which the learner is involved.

Covert objective is related to the awareness the teacher has for using the situation for wider learning and development.

Occupational area skills

The skills standards and practices associated with a particular occupation or job.

Occupational Training Families

Developed by IMS to group together occupations which have certain similarities to provide broad based training and enhance vocational choice and skill transfer.

Product/process skills

Product skill is performance related. *Process* skills are activity related; unlike product skills, process skills are continually improved. See Appendix 8, paragraph 10.

Progression

The acquisition of competencies which enable trainees to move to a higher level of training and/or education.

Programme

A personal programme of learning opportunities chosen by the young person, with guidance and counselling from a tutor from a common-core checklist which includes skills and experiences together with local additions related to local employment needs and to the facilities in the agencies providing the learning.

RP

FEU produces Project Information Bulletins (PIB) on its Research Projects (RP) which are referenced by a number.

RSA

Royal Society of Arts – concerned mainly with commercial education, is a major provider of curricula and examinations in clerical and secretarial skills.

Skills across the curriculum

Refers to curriculum organisation and teacher strategies which aim to use the activity in which the learner is involved for wider learning and the acquisition of other basic skills.

Skill Ownership

A term used by IMS which refers to skills acquired through training which emphasises personal knowledge and understanding of principles rather than just relating skills to a particular job.

Skill Transfer

The extent to which skills learnt in a particular context can be used in other contexts.

Student Profile

Is a document recording experiences, achievement and progress following valid forms of assessment.

TEC

Technician Education Council – set up in 1973 to plan, administer and keep under review the development of a unified national system of technician courses.

Vocational area skills

Related to sampling general areas of training/employment.

Vocational preparation

A means of helping young people in the transition from school to work.

Vocation Preparation (FEU: 1981) subsumes *ABC*, *UVP* and *YOP* provisions in colleges.

YTS

Youth Training Scheme. *MSC Youth Task Group Report* April 1982.

FEU PUBLICATIONS

Publications

Basic skills is one of a number of FEU publications intended to inform teachers and others and to stimulate professional discussion about matters of concern to the Further Education Service.

Other FEU publications relevant to **Basic skills** include:

A basis for choice Report of a study group on post-16 pre-employment courses	June 1979
Vocational preparation	January 1981
ABC in action A report from an FEU/CGLI working party on the piloting of a "basis for choice" (1979-81)	September 1981
Progressing from vocational preparation The issues (a discussion paper)	January 1982
Tutoring The guidance and counselling role of the tutor in vocational preparation	June 1982
Teaching skills Towards a strategy of staff development and support for vocational preparation	June 1982
Who cares? A curriculum policy for caring courses at the initial level	August 1982
A new training initiative: 1 general principles Joint statement by MSC and FEU	September 1982
Profiles A review of issues and practice in the use and development of student profiles.	September 1982

Copies of these documents (which are free of charge) are obtainable, while stocks last, from the Publications Despatch Centre, Department of Education and Science, Honeypot Lane, Canons Park, Stanmore, Middlesex HA7 1AZ. Tel. No. 01-952 2366 ext. 503.

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